Organisation et qualité de travail en SU
SAFETY CLIMATE

Karim Tazarourte MD, PhD

Urgences/SAMU69/Hyperbare

CHU Edouard Herriot, Lyon, France

INSERM U1260 RESHAPE, Université Lyon 1

Karim.tazarourte@chu-lyon.fr

Hospices Civils de Lyon

UNIVERSITÉ DE LYON

Liens d'intérêt

- Aguettant

- Qualité au (ou de) travail ?

- Qualité au travail - *SAFETY CLIMATE*
  - **Limiter les erreurs médicales**
  - **Bien être au travail**
  - **Qualité du climat de travail**

The associations between work–life balance behaviours, teamwork climate and safety climate: cross-sectional survey introducing the work–life climate scale, psychometric properties, benchmarking data and future directions

BMJ Quality Safety 2016

J Bryan Sexton,[1,2] Stephanie P Schwartz,[3] Whitney A Chadwick,[4] Kyle J Rehder,[1,3] Jonathan Bae,[5] Joanna Bokovoy,[6] Keith Doram,[6] Wayne Sotile,[7] Kathryn C Adair,[1] Jochen Profit[8]

IOWANS' EXPERIENCES WITH MEDICAL ERRORS

TOP FIVE MOST COMMON TYPE OF MEDICAL ERRORS:

60.2% Mistakes made on test, surgery or treatment

55.1% Misdiagnosis

43.9% Wrong test, surgery or treatment

37.3% Incorrect medication (wrong dose or drug)

31.7% Wrong or unclear instructions about follow-up care

HEARTLAND HEALTH RESEARCH INSTITUTE

Le lexique

- Relecture à 2 niveaux :
  Screening puis expertise
- Définitions standards + near miss

Medical error — **Near Miss** — **Preventable AE** — **Adverse Events**
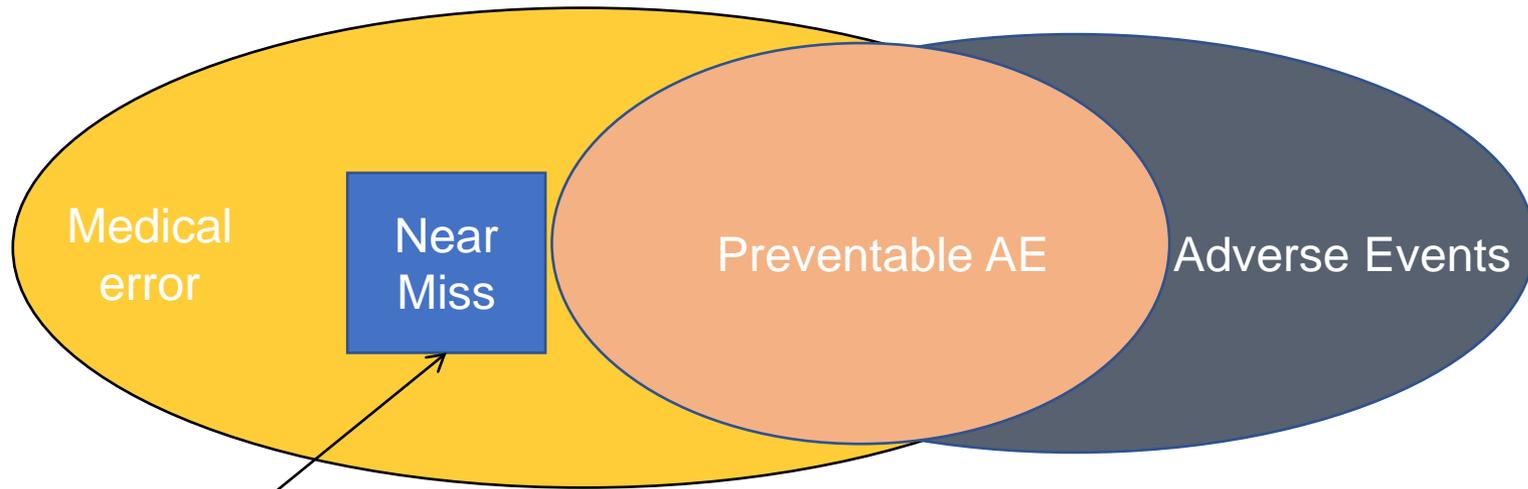
*(une erreur qui a le potentiel d'être un AE,
mais qui par chance ou intervention ne l'a pas causé)*

Sullivan et al. NEDSS rationale and design. Acad Emerg Med 2007

2013

Safety Climate and Medical Errors in 62 US Emergency Departments

Carlos A. Camargo, Jr, MD, DrPH, Chu-Lin Tsai, MD, ScD, Ashley F. Sullivan, MS, MPH, Paul D. Cleary, PhD, MPH, James A. Gordon, MD, MPA, Edward Guadagnoli, PhD, Rainu Kaushal, MD, MPH, David J. Magid, MD, MPH, Sowmya R. Rao, PhD, David Blumenthal, MD, MPP*

Près de 10 000 dossiers relus
  4.1% Adverse Events et 5.7% Near Miss
  37% des AE étaient évitables
  33% des NM interceptés

Lien avec le « **climat de sécurité** »:
  Pas de différence sur le taux d'AE
  Meilleur taux d'interception des Near Miss

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From the Department of Emergency Medicine (Camargo, Tsai, Sullivan, Gordon), Mongan Institute for Health Policy (Camargo, Gordon, Blumenthal), and Biostatistics Center (Rao), Massachusetts General Hospital, Harvard Medical School, Boston, MA; the Yale School of Public Health, Yale School of Medicine, New Haven, CT (Cleary); the Department of Health Care Policy, Harvard Medical School, Boston, MA (Guadagnoli); Weill Cornell Medical College and New York–Presbyterian Hospital, New York, NY (Kaushal); the Institute for Health Research, Kaiser Permanente Colorado and the Departments of Emergency Medicine and Preventive Medicine and Biometrics, University of Colorado Denver, Aurora, CO (Magid); and the Office of the National Coordinator for Health Information Technology, Department of Health and Human Services, Washington, DC (Blumenthal).

Ann Emerg Med. 2012

Erreurs médicales les plus fréquentes :

Mauvais usage des aérosols *(Asthme aigu)*

Titration inadéquate et pas de surveillance *(sédation procédurale)*

Retard de reperfusion *(SCA)*

Variable	Number of Events, No. (%)	Incidence Rate (95% CI), No./100 Patient Visits
Overall adverse events or near misses	934	9.5 (8.9–10.1)
By condition		
Acute myocardial infarction	658 (70)	17.3 (16.0–18.7)
Acute asthma	117 (13)	3.0 (0.4–3.5)
Joint dislocation involving procedural sedation	159 (17)	7.7 (6.6–9.0)
By type of event		
Adverse events		
Total number	402	4.1 (3.7–4.5)
Preventable	149 (37)	1.5 (1.3–1.8)
Nonpreventable	253 (63)	2.6 (2.3–2.9)
Effect		
Significant	102 (25)	1.0 (0.8–1.3)
Serious	152 (38)	1.5 (1.3–1.8)
Life threatening	128 (32)	1.3 (1.1–1.5)
Fatal	20 (5)	0.2 (0.1–0.3)
Near misses		
Total number	532	5.4 (5.0–5.9)
Intercepted	178 (33)	1.8 (1.6–2.1)
Nonintercepted	354 (67)	3.6 (3.2–4.0)
Potential effect		
Significant	154 (29)	1.6 (1.3–1.8)
Serious	234 (44)	2.4 (2.1–2.7)
Life threatening	125 (23)	1.3 (1.1–1.5)
Fatal	19 (4)	0.2 (0.1–0.3)

Safety Climate and Medical Errors in 62 US Emergency Departments

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Qualité au travail

Table 3. Multivariable associations between ED safety climate and outcome measures.

Safety Climate	Multivariable-Adjusted Incidence Rate Ratio (95% CI)*			
	Adverse Event (Overall)	Preventable Adverse Event	Nonintercepted Near Miss	Intercepted Near Miss
Overall summary score	0.89 (0.74–1.06)	0.82 (0.57–1.16)	1.08 (0.78–1.49)	1.79 (1.06–3.03)
Subscales				
Physical environment	0.92 (0.82–1.03)	0.85 (0.68–1.06)	0.89 (0.66–1.21)	1.17 (0.85–1.61)
Staffing	0.99 (0.87–1.12)	0.96 (0.76–1.21)	1.15 (0.88–1.50)	1.54 (1.08–2.20)
Equipment and supplies	0.96 (0.83–1.10)	0.85 (0.65–1.10)	1.09 (0.82–1.46)	1.41 (0.91–2.19)
Teamwork	0.92 (0.74–1.15)	1.06 (0.70–1.63)	1.42 (0.97–2.09)	2.09 (1.00–4.38)
Nursing	1.05 (0.89–1.23)	0.93 (0.68–1.29)	1.11 (0.81–1.52)	1.89 (1.17–3.07)
Culture	0.92 (0.79–1.07)	0.98 (0.76–1.27)	1.24 (0.95–1.60)	1.69 (1.18–2.42)
Triage and monitoring	0.87 (0.71–1.06)	0.84 (0.61–1.16)	0.82 (0.51–1.33)	1.74 (1.02–2.98)
Information coordination and consultation	0.98 (0.86–1.12)	0.82 (0.62–1.08)	1.04 (0.81–1.33)	1.32 (0.95–1.84)
Inpatient coordination	0.93 (0.88–0.99)	0.93 (0.81–1.07)	1.04 (0.89–1.23)	1.17 (0.97–1.40)

*A multivariable Poisson regression model was fit with generalized estimating equations accounting for clustering of patients within EDs. The model adjusted for age

SPECIAL ARTICLE

Changes in Medical Errors
after Implementation of a Handoff Program

A.J. Starmer, N.D. Spector, R. Srivastava, D.C. West, G. Rosenbluth, A.D. Allen,
E.L. Noble, L.L. Tse, A.K. Dalal, C.A. Keohane, S.R. Lipsitz, J.M. Rothschild,
M.F. Wien, C.S. Yoon, K.R. Zigmont, K.M. Wilson, J.K. O'Toole, L.G. Solan,
M. Aylor, Z. Bismilla, M. Coffey, S. Mahant, R.L. Blankenburg, L.A. Destino,
J.L. Everhart, S.J. Patel, J.F. Bale, Jr., J.B. Spackman, A.T. Stevenson, S. Calaman,
F.S. Cole, D.F. Balmer, J.H. Hepps, J.O. Lopreiato, C.E. Yu, T.C. Sectish,
and C.P. Landrigan, for the I-PASS Study Group*

24,5 medical error/100 admissions

A titre de comparaison:
   Haute montagne : 5%
   Aviation : 1 sur 100 000
   Nucléaire : < 1 sur 10^9

Les bons exemples….

Les caractéristiques communes

- **Limiter au maximum les facteurs humains**
  - **Pilote automatique**
  - **Cross checking obligatoire**
  - **Check listes obligatoire**
  - **Législation horaires de travail**
  - **Charge de travail limitée**
  - **Bien être**

  - **Un continuum précis et des phases identifiées !!**

Compétences non-techniques

Compétences techniques

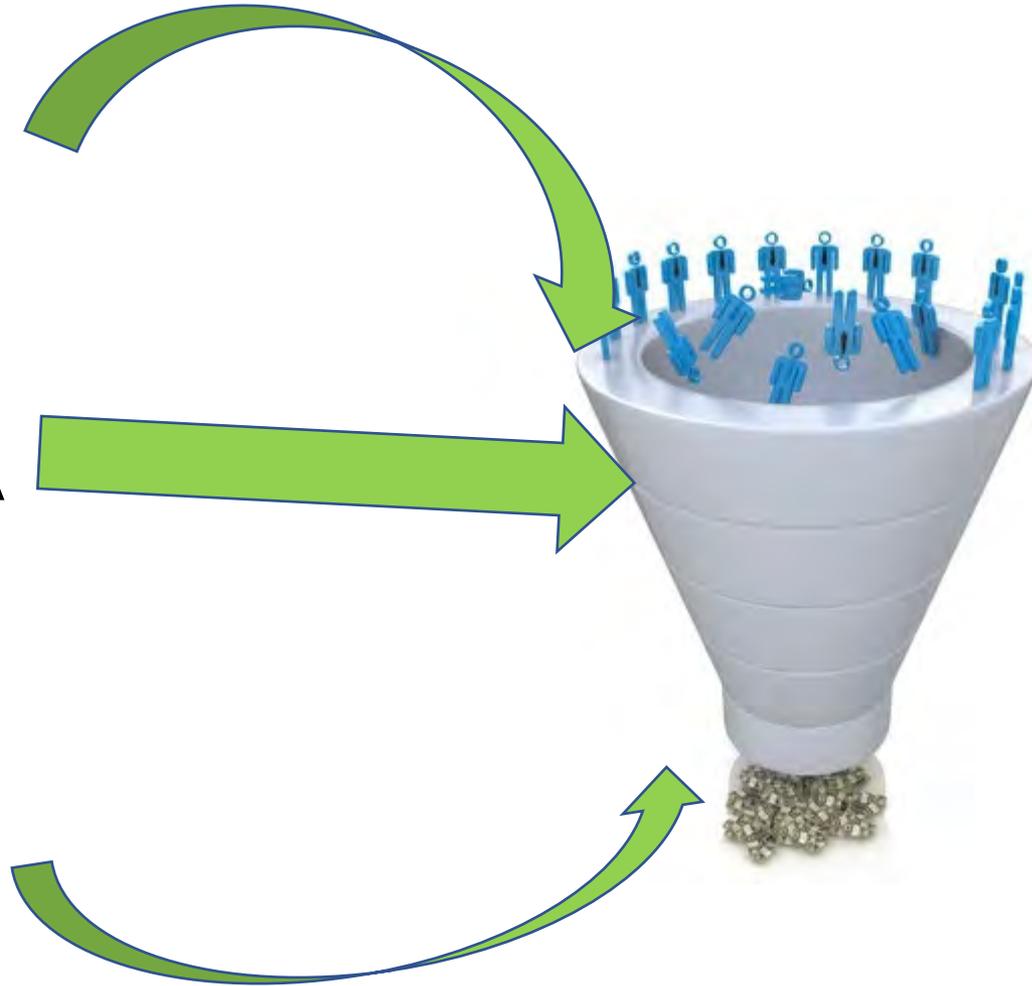**Les cas non conformes**

Compétences techniques

Compétences non-techniques

Renforcer l'humain !!!

Service d'Urgence

- Amont

- INTRA

- Aval

Comment améliorer la sécurité du patient et des soigants ?

Human based approach
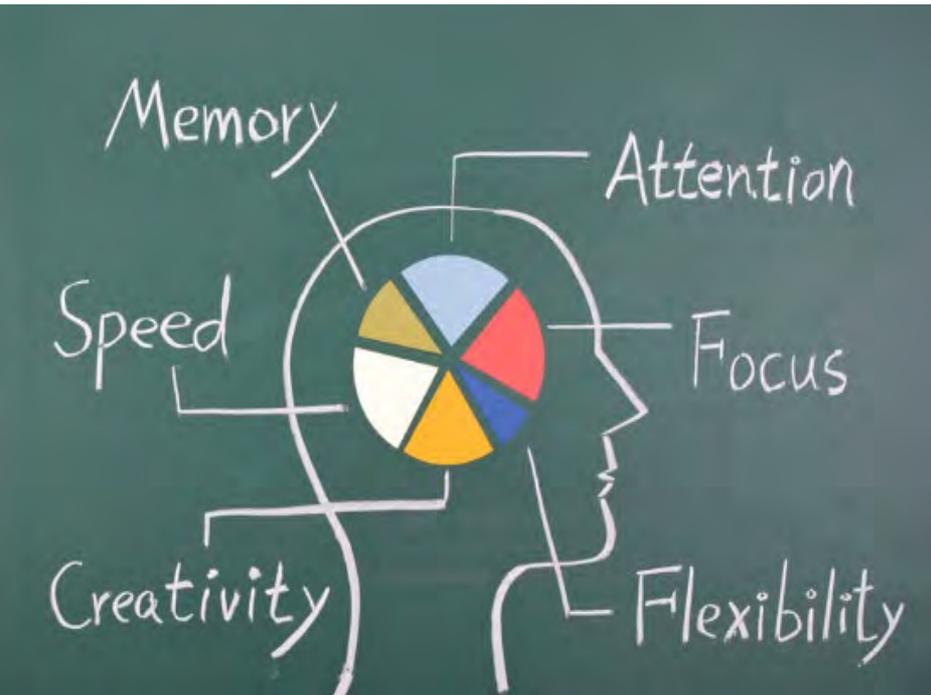
Comprendre les erreurs

Améliorer l'humain

System based approach
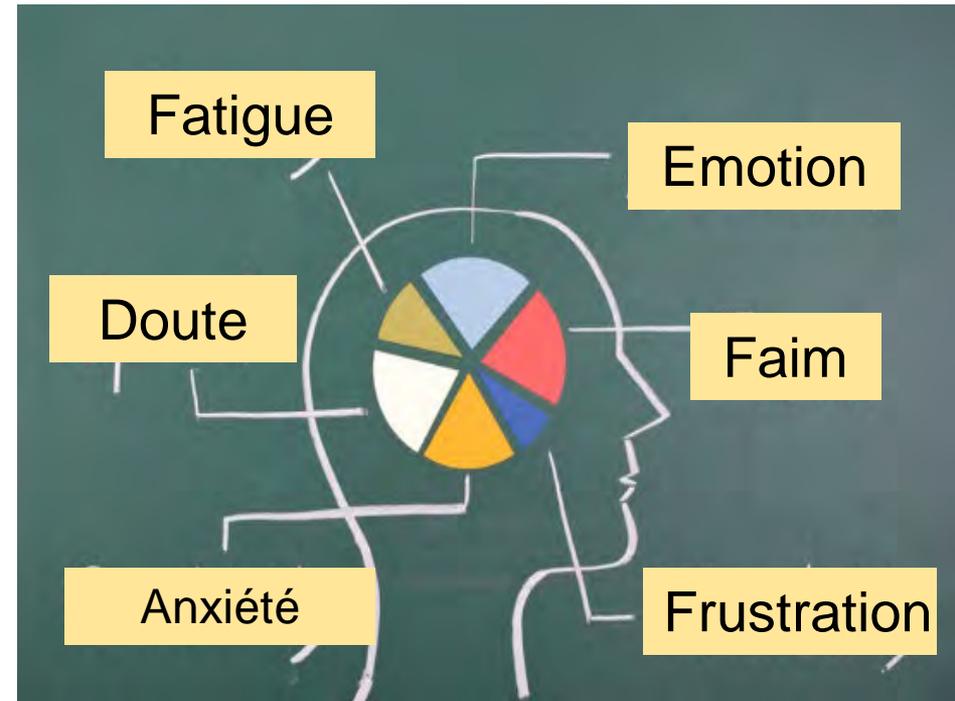Changer le système pour qu'il limite le risque d'erreur

Attraper les moustiques

Drainer le marécage

Human based approach

Ce que nous pensons être

Ce que nous sommes réellement

Fatigue
Emotion
Doute
Faim
Anxiété
Frustration

Les biais cognitifs and the noise !!
Daniel Kaneham …. ....

Facteurs de stress et conséquences du stress en médecine d'urgence : enquête nationale[1]

Stress factors and stress consequences among emergency physicians: National survey

Tableau 2 Conséquences émotionnelles et comportementales			
	TOTAL	**SMUR**	**SAU**
Nombre de réponses	**316**	**86**	**96**
Heureux (%)	224 (71 %)	64 (74 %)	66 (69 %)
Déprimé (%)	32 (10 %)	10 (12 %)	13 (13 %)
Stress lié au travail (%)	83 (26 %)	17 (20 %)	37 (38 %)
Stress lié à la vie privée (%)	16 (5 %)	7 (8 %)	5 (5 %)
Travail déborde le temps de travail (%)	177 (56 %)	42 (49 %)	60 (62 %)
Suffisamment de temps libre pour une vie privée (%)	123 (39 %)	34 (40 %)	30 (31 %)
Départ à 5 ans (%)	92 (29 %)	15 (17 %)	40 (42 %)
Détente par l'alcool (%)	38 (12 %)	9 (11 %)	13 (14 %)
Détente par le tabac (%)	73 (23 %)	21 (24 %)	25 (26 %)
Détente médicaments (%)*	40 (13 %)	8 (9 %)	13 (14 %)
Détente produits illicites (%)**	9 (3 %)	3 (3 %)	3 (3 %)

Posttraumatic Stress Disorder in Emergency Medicine Residents

Lara Vanyo, MD*; Randy Sorge, MD; Angela Chen, MD; Daniel Lakoff, MD

*Corresponding Author. E-mail: vanyol@ccf.org, Twitter: @vanyo_l.

2017

Emergency medicine resident physicians' incidence falling in the range of 11.9% to 21.5%

Strategies to Enhance Wellness in Emergency Medicine Residency Training Programs

Shana Ross, DO, MSc*; E. Liang Liu, MD; Christian Rose, MD; Adaira Chou, MD; Nicole Battaglioli, MD

*Corresponding Author. E-mail: Shana.Elisha@gmail.com, Twitter: @ShanaElisha.

Burnout changes the way a physician thinks, acts, and cares for patients

Rates of medication errors among depressed and burnt out residents: prospective cohort study

Amy M Fahrenkopf, instructor of paediatrics,[1] Theodore C Sectish, associate professor of paediatrics,[2] Laura K Barger, research fellow,[3] Paul J Sharek, assistant professor of paediatrics,[2] Daniel Lewin, assistant professor of psychiatry and paediatrics,[4] Vincent W Chiang, assistant professor of paediatrics,[1] Sarah Edwards, project coordinator,[3] Bernhard L Wiedermann, associate professor of paediatrics,[4] Christopher P Landrigan, assistant professor of paediatrics and medicine[1,3]

Effect of emergency physician burnout on patient waiting times

Carla De Stefano[1,5] · Anne-Laure Philippon[2,3] · Evguenia Krastinova[4] · Pierre Hausfater[2,3] · Bruno Riou[2,3] · Frederic Adnet[1,5] · Yonathan Freund[2,3]
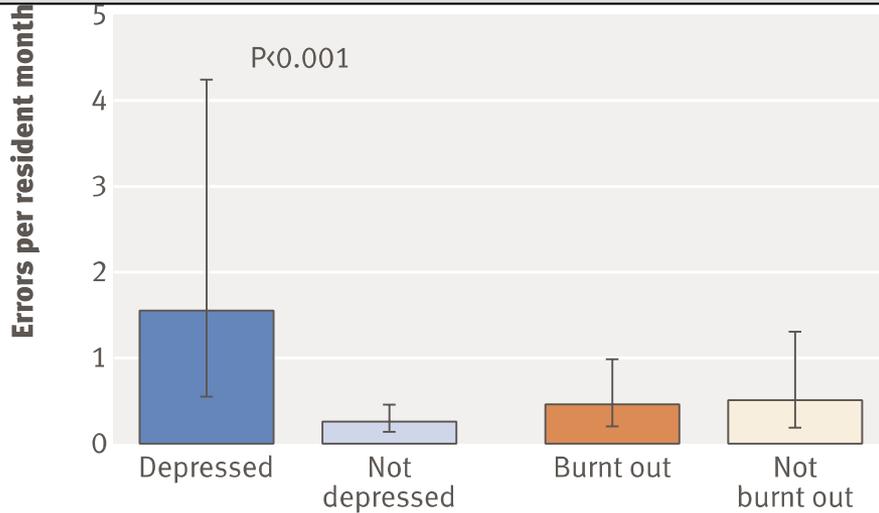

Fig 1 | Rates of medication errors per resident month for depressed compared with non-depressed residents and for burnt out compared with non-burnt out residents. T bars indicate 95% confidence intervals. P value determined using Poisson cluster analysis

Un médecin en burn out et qui travaille augmente le temps de passage de 1,5 X

Il faut se monitorer régulièrement..
Et détecter les signaux faibles..
Mesure individuelle de performance ?

BMJ Qual Saf 2016

Entretiens structurés
Ce qui est important pour être bien dans son travail !

Work–life climate	77.00 (7.44)
Skipped a meal.	84.34 (9.96)
Worked through a shift without any breaks.	82.51 (12.88)
Ate a poorly balanced meal.	76.43 (13.23)
Changed personal/family plans because of work.	79.43 (11.56)
Had difficulty sleeping.	72.58 (12.24)
Slept <5 hours in a night.	78.56 (11.95)
Arrived home late from work.	70.42 (12.88)

J Bryan Sexton,[1,2] Stephanie P Schwartz,[3] Whitney A Chadwick,[4] Kyle J Rehder,[1,3] Jonathan Bae,[5] Joanna Bokovoy,[6] Keith Doram,[6] Wayne Sotile,[7] Kathryn C Adair,[1] Jochen Profit[8]

BMJ Qual Saf 2016

Conditions du travail en équipe : Teamwork climate

Teamwork climate	78.52 (17.63)
Nurse input is well received in this clinical area.	80.62 (17.06)
In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	14.31 (12.06)
Disagreements in this clinical area are appropriately resolved (ie, not who is right but what is best for the patient).	80.32 (14.84)
I have the support I need from others in this clinical area to care for patients.	89.20 (11.33)
It is easy for personnel here to ask questions when there is something that they do not understand.	90.64 (10.27)
The physicians and nurses here work together as a well-coordinated team.	79.82 (18.33)

BMJ Qual Saf 2016

Safety climate	78.50 (15.42)
I would feel safe being treated here as a patient.	83.78 (15.35)
Medical errors are handled appropriately in this clinical area.	86.57 (12.58)
I know the proper channels to direct questions regarding patient safety in this clinical area.	94.17 (8.00)
I receive appropriate feedback about my performance.	84.48 (12.61)
In this clinical area, it is difficult to discuss errors.	16.32 (12.05)
I am encouraged by others in this clinical area, to report any patient safety concerns I may have.	87.66 (9.40)
The culture in this clinical area makes it easy to learn from the errors of others.	76.17 (14.21)

Assessment of Rapid Response Teams at Top-Performing Hospitals for In-Hospital Cardiac Arrest

Kimberly Dukes, PhD; Jacinda L. Bunch, PhD, RN; Paul S. Chan, MD, MSc; Timothy C. Guetterman, PhD, MA; Jessica L. Lehrich, MS; Brad Trumpower, MS; Molly Harrod, PhD; Sarah L. Krein, PhD, RN; Joan E. Kellenberg, MS, MPH; Heather Schacht Reisinger, PhD; Steven L. Kronick, MD, MS; Theodore J. Iwashyna, MD, PhD; Brahmajee K. Nallamothu, MD, MPH; Saket Girotra, MD, SM

Interview semi-structurés auprès de professionnels
SE SENTIR A l'AISE dans son rôle !!!!

Top-performing hospitals feature rapid response teams with dedicated staff **without competing responsibilities**, serve as a resource for bedside nurses in surveillance of at-risk patients, **collaborate with nurses** during and after a rapid response, and can be activated by a member of the care team **without fear of reprisal.**

CONFIANCE ……Gage de performance

System based approach

Changer le système pour qu'il limite le risque d'erreur

Analysis of Risk Factors for Patient Safety Events Occurring in the Emergency Department

Mohamed Alsabri, MD,* Zoubir Boudi, MD,† Taoufik Zoubeidi, MD,‡ Ibrahim Abdalla Alfaki, MD,‡
Phillip Levy, MD,§ Churchill Oneyji, MD, MPH,* Liu Shan, MD, MPH,|| Carlos A. Camargo Jr, MD, DrPH,||
Philippe Michel, MD, MSc, PhD,¶** Karim Tazarourte, MD, MSc, PhD,**††
Said Hachimi-Idrissi, MD, MSc, PhD,‡‡
Shamai Grossman, MD, MPH,* and Abdelouahab Bellou, MD, MSc, PhD*§§

The odds of a preventable AE occurring increased by
- 0.2% for each additional minute increase in the ED waiting time,
- 5.2% for each additional boarding hour,
- 4.5% for each ED LOS hour.

Le staffing..

- A partir de quelle charge de travail on devient moins efficace ??

- Pas de données

Effect of Reducing Interns' Work Hours on Serious Medical Errors in Intensive Care Units

Christopher P. Landrigan, M.D., M.P.H., Jeffrey M. Rothschild, M.D., M.P.H.,
John W. Cronin, M.D., Rainu Kaushal, M.D., M.P.H., Elisabeth Burdick, M.S.,
Joel T. Katz, M.D., Craig M. Lilly, M.D., Peter H. Stone, M.D., Steven W. Lockley, Ph.D.,
David W. Bates, M.D., and Charles A. Czeisler, Ph.D., M.D.,
for the Harvard Work Hours, Health and Safety Group

Cluster cross-over randomised study
Working hours
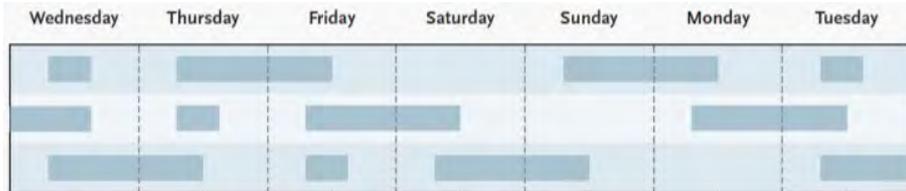
136 errors/ 1000 Pt-days
21 preventable SAE

100 errors / 1000 Pt-days
17 preventable SAE

36 % global reduction

Les plages de travail de plus de 24 h/ 3-4 jours vs < 16 H sont délétères pour les médecins et les patients
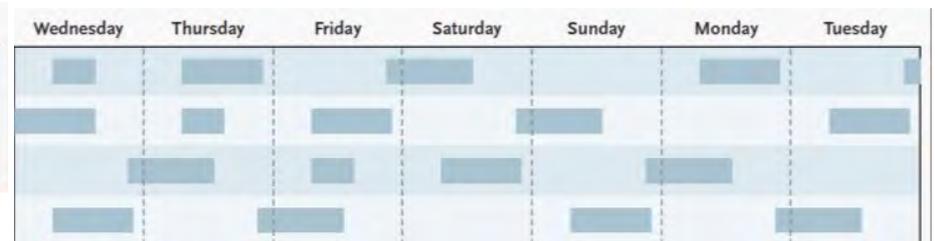
Extended Work Shifts and
Neurobehavioral Performance
in Resident-Physicians

Pediatrics 2021

Shadab A. Rahman, PhD, MPH,[a,b] Jason P. Sullivan, BS,[a] Laura K. Barger, PhD,[a,b] Melissa A. St. Hilaire, PhD,[a,b]
Conor S. O'Brien, BA,[a] Katie L. Stone, PhD,[c] Andrew J.K. Phillips, PhD,[a,b,d] Elizabeth B. Klerman, MD, PhD,[a,b] Salim Qadri, BS,[a]
Kenneth P. Wright, Jr, PhD,[e] Ann C. Halbower, MD,[f] Jeffrey L. Segar, MD,[g] John K. McGuire, MD,[h] Michael V. Vitiello, PhD,[i]
Horacio O. de la Iglesia, PhD,[j] Sue E. Poynter, MD, MEd,[k] Pearl L. Yu, MD,[l] Amy L. Sanderson, MD,[m] Phyllis C. Zee, MD, PhD,[o]
Christopher P. Landrigan, MD, MPH,[a,b,n] Charles A. Czeisler, MD, PhD,[a,b] Steven W. Lockley, PhD,[a,b] THE ROSTERS STUDY GROUP

Attentional failures were associated with resident-physician–related serious medical errors (SMEs) (P =.04)

A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population

Alex B. Haynes, M.D., M.P.H., Thomas G. Weiser, M.D., M.P.H.,
William R. Berry, M.D., M.P.H., Stuart R. Lipsitz, Sc.D.,
Abdel-Hadi S. Breizat, M.D., Ph.D., E. Patchen Dellinger, M.D.,
Teodoro Herbosa, M.D., Sudhir Joseph, M.S., Pascience L. Kibatala, M.D.,
Marie Carmela M. Lapitan, M.D., Alan F. Merry, M.B., Ch.B., F.A.N.Z.C.A., F.R.C.A.,
Krishna Moorthy, M.D., F.R.C.S., Richard K. Reznick, M.D., M.Ed., Bryce Taylor, M.D.,
and Atul A. Gawande, M.D., M.P.H., for the Safe Surgery Saves Lives Study Group*

**Etude Avant-Après, implémentation de checkliste OMS
8 hôpitaux dans 8 pays – Tout sauf chir cardiaque**

Before induction of anaesthesia ▶▶▶▶▶▶▶▶▶ Before skin incision ▶▶▶▶▶▶▶▶▶▶▶▶▶ Before patient leaves operating room

SIGN IN

☐ **PATIENT HAS CONFIRMED**
- IDENTITY
- SITE
- PROCEDURE
- CONSENT

☐ **SITE MARKED/NOT APPLICABLE**

☐ **ANAESTHESIA SAFETY CHECK COMPLETED**

☐ **PULSE OXIMETER ON PATIENT AND FUNCTIONING**

DOES PATIENT HAVE A:

KNOWN ALLERGY?
☐ NO
☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK?
☐ NO
☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE

RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?
☐ NO
☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED

TIME OUT

☐ **CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE**

☐ **SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM**
- PATIENT
- SITE
- PROCEDURE

ANTICIPATED CRITICAL EVENTS

☐ **SURGEON REVIEWS:** WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?

☐ **ANAESTHESIA TEAM REVIEWS:** ARE THERE ANY PATIENT-SPECIFIC CONCERNS?

☐ **NURSING TEAM REVIEWS:** HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?

HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?
☐ YES
☐ NOT APPLICABLE

IS ESSENTIAL IMAGING DISPLAYED?
☐ YES
☐ NOT APPLICABLE

SIGN OUT

NURSE VERBALLY CONFIRMS WITH THE TEAM:

☐ **THE NAME OF THE PROCEDURE RECORDED**

☐ **THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT** (OR NOT APPLICABLE)

☐ **HOW THE SPECIMEN IS LABELLED** (INCLUDING PATIENT NAME)

☐ **WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED**

☐ **SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT**

Routine

1.5% deaths
11% severe AE

Checklist

0.8% deaths
7% severe AE

40% de réduction!

Créez des checks lists

Check list trauma

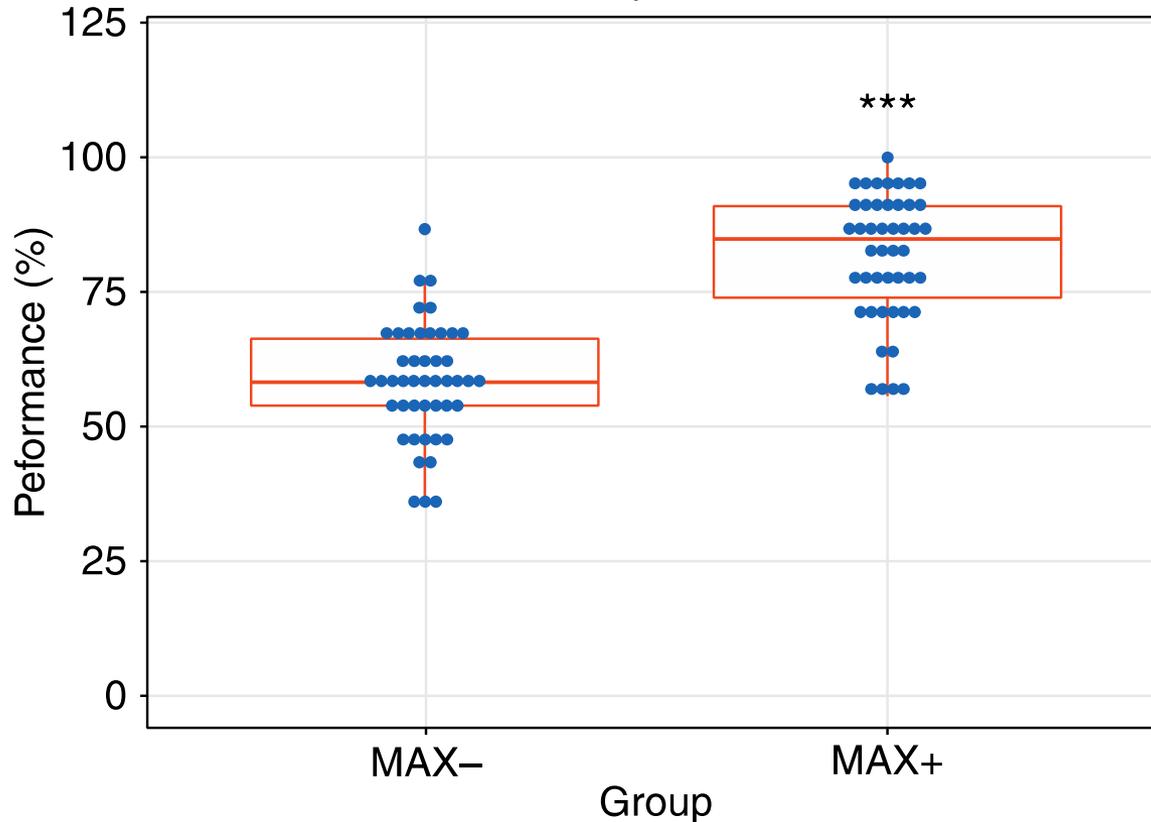| Treatment phase	Yes	No	N/A	Reason for variance
Initial assessment and management				
Extent of traumatic haemorrhage assessed	☐	☐	☐	
Patient in shock with identified source of bleeding treated immediately	☐	☐	☐	
Patient in shock with unidentified source of bleeding sent for further investigation	☐	☐	☐	
Coagulation, haematocrit, serum lactate, base deficit assessed		☐	☐	
Antifibrinolytic therapy initiated		☐	☐	
Patient history of anticoagulant therapy assessed (vitamin K antagonists, antiplatelet agents, oral anticoagulants)	☐	☐	☐	
Resuscitation				
Systolic blood pressure of 80–90 mmHg achieved in absence of TBI	☐	☐	☐	
Measures to achieve normothermia implemented		☐	☐	
Target Hb level 70–90 g/L achieved	☐	☐	☐	
Surgical intervention				
Abdominal bleeding control achieved	☐	☐	☐	
Pelvic ring closed and stabilised	☐	☐		
Peritoneal packing, angiographic embolisation or surgical bleeding control completed in haemodynamically unstable patient	☐	☐	☐	
Damage-control surgery performed in haemodynamically unstable patient	☐	☐	☐	
Local haemostatic measures applied	☐	☐	☐	
Thromboprophylactic therapy recommended	☐	☐	☐	
Coagulation management				
Coagulation, haematocrit, serum lactate, base deficit, calcium reassessed	☐	☐	☐	
Target fibrinogen level 1.5–2 g/L achieved	☐	☐	☐	
Target platelet level achieved	☐	☐	☐	
Prothrombin complex concentrate administered if indicated due to vitamin K antagonist, oral anticoagulant or evidence from viscoelastic methods	☐	☐	☐	

Spahn et al. Crit Care.2019

BJA

Use of a hand-held digital cognitive aid in simulated crises: the MAX randomized controlled trial

R. Lelaidier[1,2,*], B. Balança[1,3,4], S. Boet[5,6], A. Faure[1,2], M. Lilot[1,7,8], F. Lecomte[8], J.-J. Lehot[1,4,8], T. Rimmelé[1,2,10] and J.-C. Cejka[1,2]

Le smartphone peut aider la team à mieux faire

Nécessité d'un Leader
Chef d'orchestre

Technical performance

Effect of Systematic Physician Cross-Checking on Reducing Adverse Events in the Emergency Department
The CHARMED Cluster Randomized Trial

Yonathan Freund, MD, PhD; Hélène Goulet, MD, MPH; Judith Leblanc, MsC; Jérôme Bokobza, MD;
Patrick Ray, MD, PhD; Maxime Maignan, MD, PhD; Sabine Guinemer, MD; Jennifer Truchot, MD;
Anne-Laure Féral-Pierssens, MD; Youri Yordanov, MD; Anne-Laure Philippon, MD; Edwin Rouff, MD;
Ben Bloom, MD; Marine Cachanado, MsC; Alexandra Rousseau, PhD;
Tabassome Simon, MD, PhD; Bruno Riou, MD, PhD

IMPORTANCE Emergency departments (ED) are environments that are at high risk for medical errors. Previous studies suggested that the proportion of medical errors may decrease when more than 1 physician is involved.

Intervention:
Cross-checking systématique entre 2 urgentistes
(pex 10h30, 13h and 16h)

Variable	All Patients No. (%)	Cross-checkings No.	Cross-checkings % (95% CI)	Standard Period No.	Standard Period % (95% CI)	Relative Risk Reduction, % (95%CI)	P Value
Adverse event (near miss or serious adverse event)	144 (8.6)	54	6.4 (4.9 to 8.4)	90	10.7 (8.7 to 13.0)	40 (12 to 59)	.01
Near miss or preventable serious adverse event	135 (8.0)	51	6.1 (4.6 to 8.0)	84	10.0 (8.1 to 12.3)	39 (10 to 59)	.02
Near miss	75 (4.5)	26	3.1 (2.1 to 4.6)	49	5.8 (4.4 to 7.7)	47 (15 to 67)	.009
Serious adverse event	69 (4.1)	28	3.3 (2.3 to 4.8)	41	4.9 (3.6 to 6.6)	32 (−9 to 57)	.14
Preventable serious adverse event	60 (3.6)	25	3.0 (2.0 to 4.4)	35	4.2 (3.0 to 5.8)	29 (−18 to 57)	.24

Cross check : médiane 7 patients en 9 min
Pour chaque urgentiste

Patient safety after implementation of a coproduced family centered communication programme: multicenter before and after intervention study

BMJ 2018

Alisa Khan,[1,2] Nancy D Spector,[3,4] Jennifer D Baird,[5] Michele Ashland,[6] Amy J Starmer,[1,2] Glenn Rosenbluth,[7,8] Briana M Garcia,[7,9] Katherine P Litterer,[10] Jayne E Rogers,[11] Anuj K Dalal,[1,12] Stuart Lipsitz,[1,12] Catherine S Yoon,[12] Katherine R Zigmont,[12] Amy Guiot,[13,14] Jennifer K O'Toole,[13,14] Aarti Patel,[15,16] Zia Bismilla,[17,18] Maitreya Coffey,[17,18] Kate Langrish,[19,20] Rebecca L Blankenburg,[21,22] Lauren A Destino,[21,22] Jennifer L Everhart,[21,22] Brian P Good,[23,24] Irene Kocolas,[23,24] Rajendu Srivastava,[23,24] Sharon Calaman,[3,4] Sharon Cray,[25] Nicholas Kuzma,[3,4] Kheyandra Lewis,[3,4] E Douglas Thompson,[3,4] Jennifer H Hepps,[26,27] Joseph O Lopreiato,[26] Clifton E Yu,[26,27] Helen Haskell,[28] Elizabeth Kruvand,[29,30] Dale A Micalizzi,[31] Wilma Alvarado-Little,[32,32] Benard P Dreyer,[34,35] H Shonna Yin,[34,36] Anupama Subramony,[37,38] Shilpa J Patel,[39,40] Theodore C Sectish,[1,2] Daniel C West,[7,8] Christopher P Landrigan,[1,2,41] on behalf of the Patient and Family Centered I-PASS Study Group

On parle aux familles (et des écrits) !!!

Table 2 | Medical errors and adverse events before and after implementation of Patient and Family Centered I-PASS

| Incident type | Pre-intervention (n=1574) | | Post-intervention (n=1532) | | P value |
	No of incidents	Rate/1000 patient days (95% CI)	No of incidents	Rate/1000 patient days (95% CI)	
Overall medical errors	259	41.2 (31.2 to 54.5)	245	35.8 (26.9 to 47.7)	0.21
Non-harmful errors	139	20.0 (13.2 to 30.2)	164	22.0 (15.1 to 32.1)	0.50
Harmful errors*	120	20.7 (15.3 to 28.1)	81	12.9 (8.9 to 18.6)	0.01
Non-preventable adverse events	72	12.6 (8.9 to 17.9)	31	5.2 (3.1 to 8.8)	0.003

*Also known as preventable adverse events.

Association Between Parent Comfort With English and Adverse Events Among Hospitalized Children

2020

Alisa Khan, MD, MPH; H. Shonna Yin, MD, MS; Cindy Brach, MPP; Dionne A. Graham, PhD;
Matthew W. Ramotar, BA; David N. Williams, PhD; Nancy Spector, MD; Christopher P. Landrigan, MD, MPH;
Benard P. Dreyer, MD; for the Patient and Family Centered I-PASS Health Literacy Subcommittee

On fait attention aux patients qui maitrisent mal la langue !!!

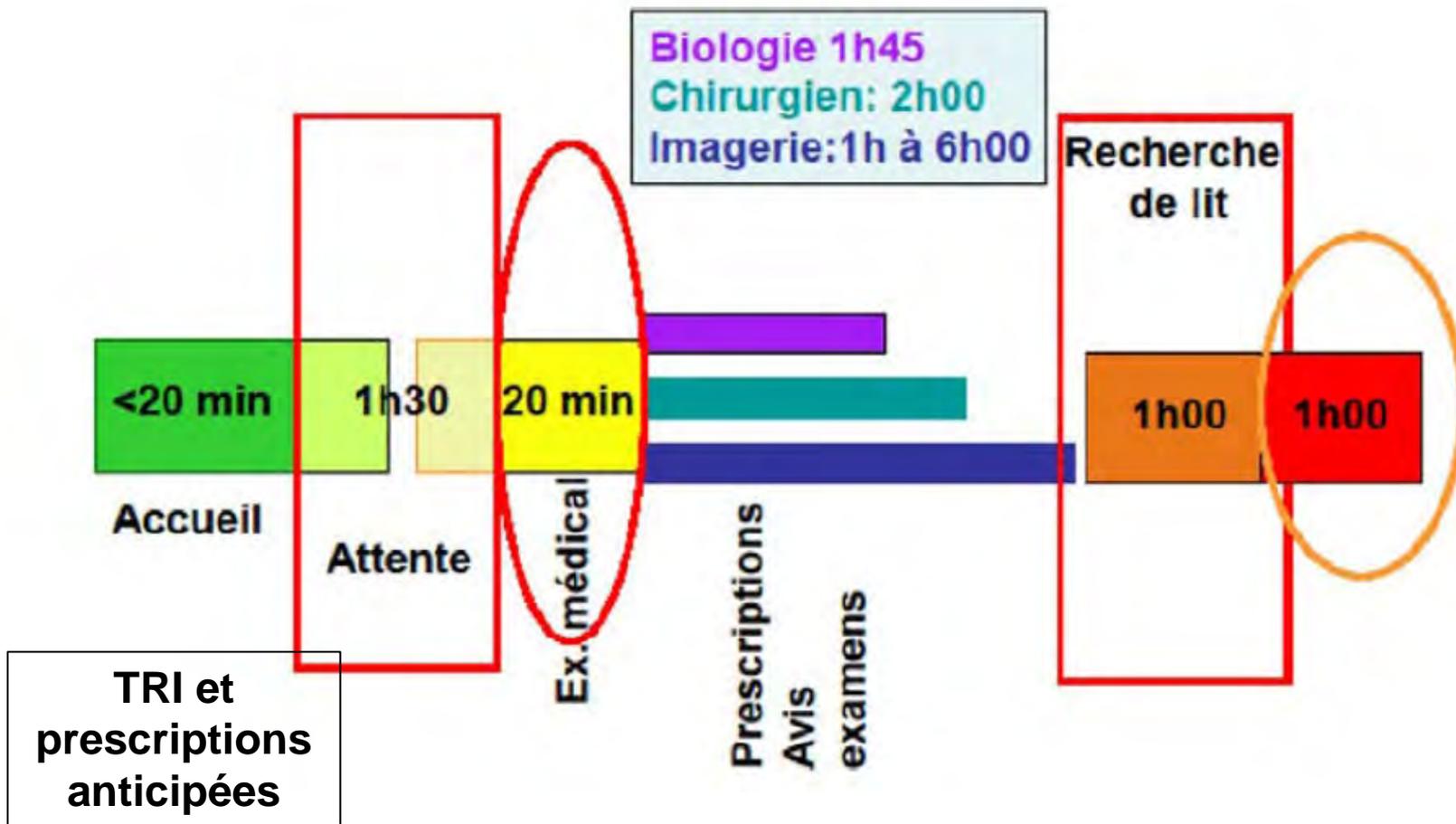**Table 3. Multivariable Predictors of Adverse Events[a]**

Characteristic	aOR (95% CI)	P value
Patient		
≥1 CCC vs 0	1.3 (0.9-1.9)	.21
Mean unit length of stay	1.2 (1.1-1.2)	<.001
Parent		
Limited comfort with English vs comfortable with English	2.1 (1.2-3.7)	.01
Asian vs White	0.7 (0.4-1.4)	.34
Black vs White	1.1 (0.6-2.0)	.76
Other vs White	1.7 (1.0-2.9)	.03
Some college or more vs no college	1.8 (1.2-2.9)	.01

Conclusion
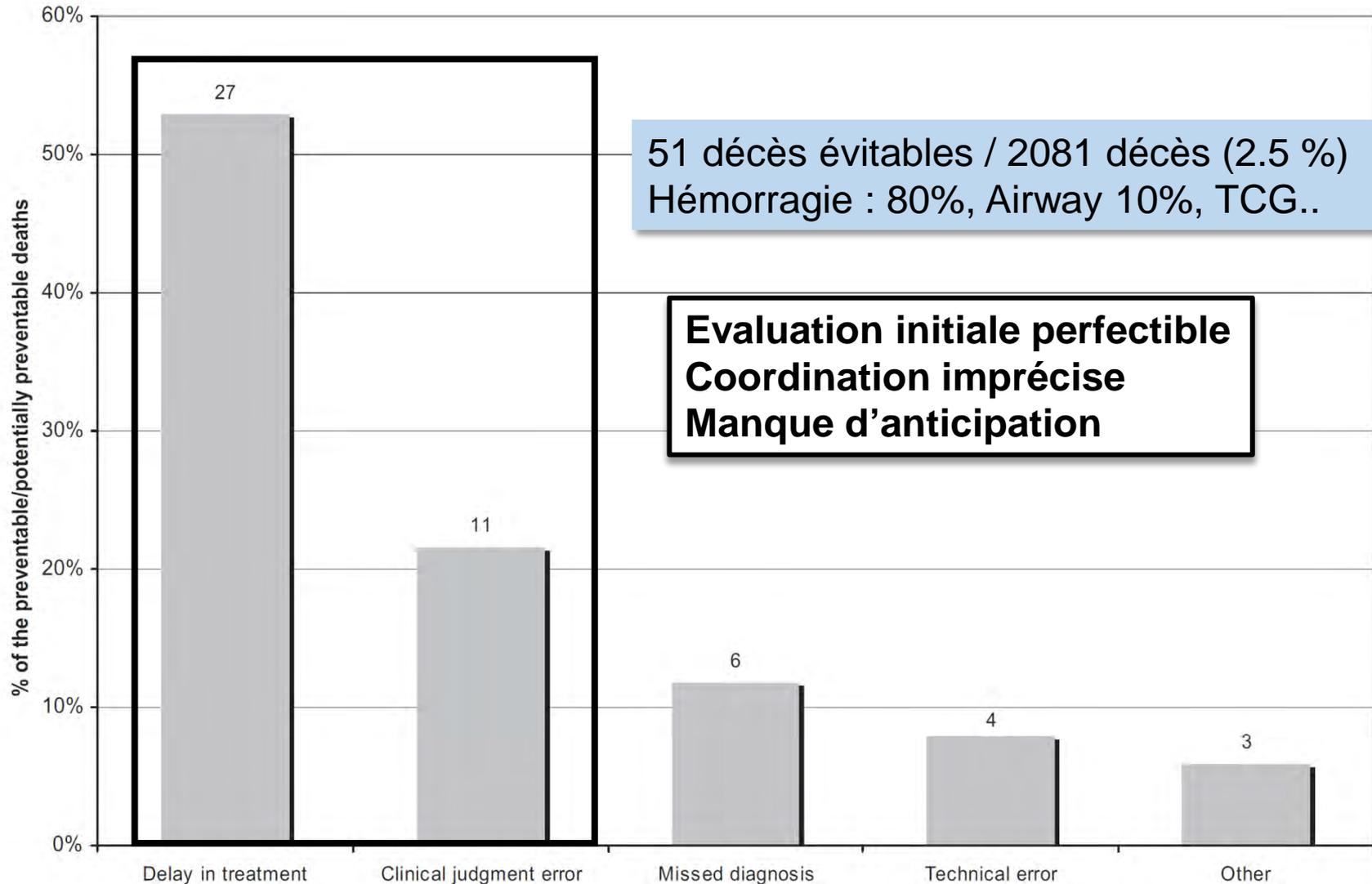# les pistes de recherche en SU

- Optimiser le système
  - Identifier un ratio de charge de travail
  - Permettre les techniques d'optimisation de potentiel
  - Monitorer leur mental
  - Planning revu
  - Transmissions croisées régulières
  - Documents pré-remplis et check list

Les successions d'acteurs

Biologie 1h45
Chirurgien: 2h00
Imagerie:1h à 6h00

Recherche de lit

<20 min | 1h30 | 20 min | 1h00 | 1h00

Accueil
Attente
Ex.médical
Prescriptions Avis examens

TRI et prescriptions anticipées

Le concept de lésions survivables..
Texeira J Trauma 2007

51 décès évitables / 2081 décès (2.5 %)
Hémorragie : 80%, Airway 10%, TCG..

Evaluation initiale perfectible
Coordination imprécise
Manque d'anticipation
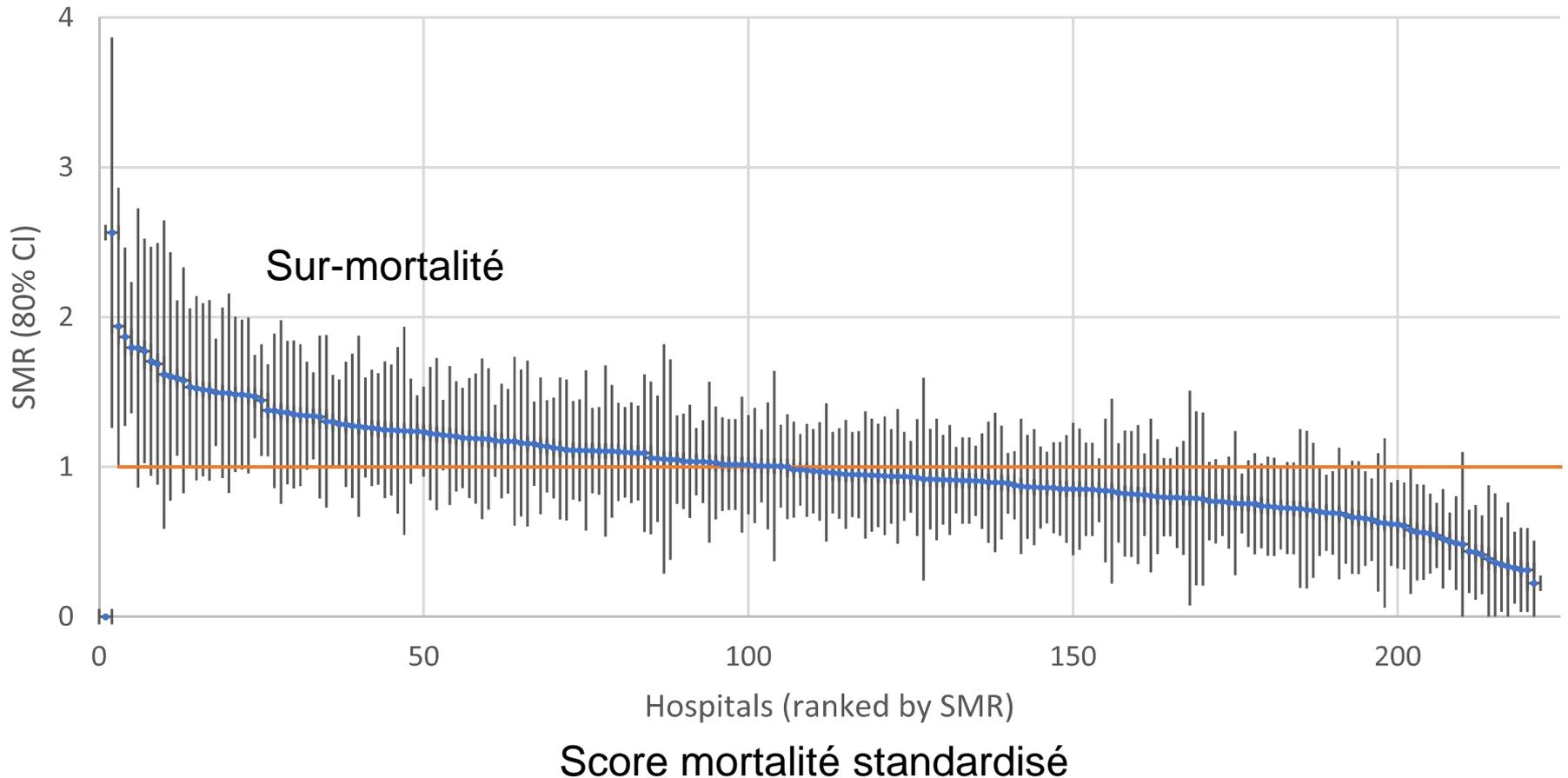
Exemple d'une situation critique

tress hard

y assessment
- itify cricothyroid
- nbrane
- ke intubation option?

- ❑ **Optimal preoxygenation**
  - ❑ 3 mins or ETO_2 > 85%
  - ❑ Consider CPAP / NIV
  - ❑ Nasal O_2

- ❑ **Optimise patient state**
  - ❑ Fluid / pressor/ inotrope
  - ❑ Aspirate NG tube
  - ❑ Delayed sequence induction

- ❑ **Allergies?**
  - ❑ ↑ Potassium risk?
    - avoid suxamethonium

- ❑ **Check equipment**
  - ❑ Tracheal tubes x 2
    - cuffs checked
  - ❑ Direct laryngoscopes x 2
  - ❑ Videolaryngoscope
  - ❑ Bougie / stylet
  - ❑ Working suction
  - ❑ Supraglottic airways
  - ❑ Guedel / nasal airways
  - ❑ Flexible scope / Aintree
  - ❑ FONA set

- ❑ **Check drugs**
  - ❑ Consider ketamine
  - ❑ Relaxant
  - ❑ Pressor / inotrope
  - ❑ Maintenance sedation

- ❑ Team Leader
- ❑ 1st Intubator
- ❑ 2nd Intubator
- ❑ Cricoid force
- ❑ Intubator's assistant
- ❑ Drugs
- ❑ Monitoring patient
- ❑ Runner
- ❑ MILS (if indicated)
- ❑ Who will perform FONA?

- ❑ **Who do we call for help?**

- ❑ **Who is noting the time?**

- ❑ **Verbalise "Airway Plan i**

- ❑ **Plan A:**
  Drugs & laryngoscopy
- ❑ **Plan B/C:**
  Supraglottic airway
  Face-mask
  Fibreoptic intubation via
  supraglottic airway
- ❑ **Plan D:**
  FONA
  Scalpel-bougie-tube

- ❑ **Does anyone have questions or concerns?**

Association of Statewide Implementation of the Prehospital Traumatic Brain Injury Treatment Guidelines With Patient Survival Following Traumatic Brain Injury
The Excellence in Prehospital Injury Care (EPIC) Study

Daniel W. Spaite, MD; Bentley J. Bobrow, MD; Samuel M. Keim, MD, MS; Bruce Barnhart, RN, CEP; Vatsal Chikani, MPH; Joshua B. Gaither, MD; Duane Sherrill, PhD; Kurt R. Denninghoff, MD; Terry Mullins, MPH, MBA; P. David Adelson, MD; Amber D. Rice, MD, MS; Chad Viscusi, MD; Chengcheng Hu, PhD

2019

The Excellence inPrehospital Injury Care (EPIC) Study included more than 130 emergency medical services systems/agencies throughout Arizona 2007-2015

OBJECTIVE To evaluate the association of implementing evidence-based, prehospital treatment guidelines with outcomes in moderate, severe, and critical TBI.

21 852 met inclusion criteria for analysis (preimplementation phase [P1]: 15 228; postimplementation [P3]: 6624)

A | Survival by airway/ventilatory intervention

Subset	aOR (95%): Survival to Hospital Discharge
PPV Head injury severity 3-4	3.52 (1.96-6.34)
PPV Head injury severity 5-6	0.72 (0.58-0.88)
PPV ISS 16 to 24	2.75 (1.15-7.53)[a]
PPV ISS ≥25	0.87 (0.72-1.06)
ETI Head injury severity 3-4	3.14 (1.65-5.98)
ETI Head injury severity 5-6	0.67 (0.52-0.86)
ETI ISS 16 to 24	3.28 (1.19-11.34)[a]
ETI ISS ≥25	0.81 (0.64-1.01)

aOR for Survival to Hospital Discharge
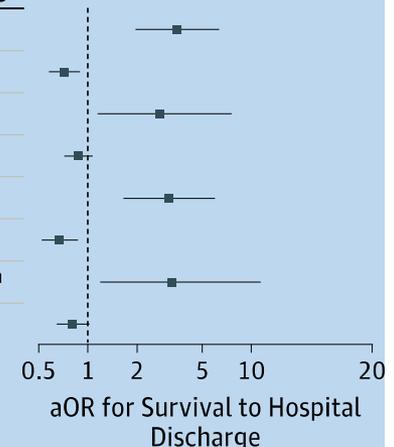
Six in 10 adults with medical error experience say a medical problem was misdiagnosed and 4 in 10 say they weren't treated with respect.

Category	Percent
A medical problem was misdiagnosed	59
Mistake was made during a test, surgery, or treatment	46
Received a diagnosis that didn't make sense	42
Were not treated with respect	39
Were given wrong instructions about follow-up care	29
Were administered the wrong medication dosage	28
Received treatment that was not needed	27
Were given instructions from different providers	24
Got an infection after a hospitilization or treatment	24
Received the wrong medication from a doctor	18
Test results were lost, delayed, or not shared	17
Received the wrong medication from a pharmacy	9
Fell down or out of bed	8
Got a bed sore	8
Accidentally took too much medication	5

Percent of adults with medical error experience
who say each happened

Question: Again, thinking about the most recent time a medical error was made in [your care/the care of someone close to you], for each of the following, please indicate whether or not it is the sort of medical error that occurred.

Programme renforcer la performance

Trends in 1029 trauma deaths at a level 1 trauma center: Impact of a bleeding control bundle of care

CrossMark

Blessing T. Oyeniyi, Erin E. Fox, Michelle Scerbo, Jeffrey S. Tomasek, Charles E. Wade, John B. Holcomb[*]

Center for Translational Injury Research, Division of Acute Care Surgery, Department of Surgery, Medical School, The University of Texas Health Science Center at Houston, Houston, TX, USA

Guidelines
Procédures et checklists
Feedback
Team Building
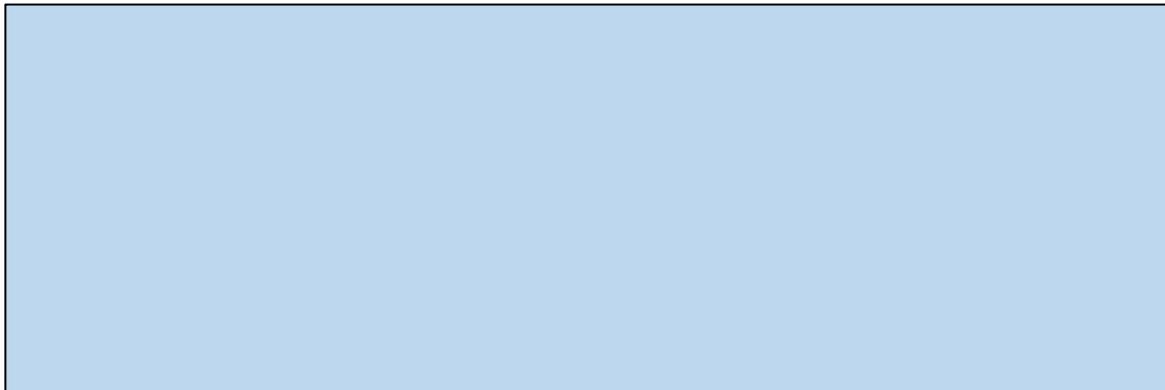
Mona Anzan[1,2], Monira Alwhaibi[2,3], Mansour Almetwazi[2], Tariq M. Alhawassi[1,2,3]*

1 Pharmacy Services, King Saud University Medical City, Riyadh, Saudi Arabia, 2 Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia, 3 Medication Safety Research Chair, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

Plos One 2021

On optimise les postes de travail !!

13,5 % prescriptions erronées

Table 3. Factors associated with increased risk of prescribing errors.

Systems Related Contributing factors	Number	%
Pre-printed medication orders	27	42.9
Training	17	27.0
Noise Level	7	11.1
Frequent Interruptions and distractions	6	9.5
Lack of availability of health care professional	2	3.2
Other	2	3.2
Communication systems between health care practitioners	1	1.6
Human Related Contributing factors	**Number**	**%**
Knowledge Deficit	27	32.5
Incorrect selection from a list by the computer operator	21	25.3
Undertrained to use the electronic system correctly	9	10.8
Human factors	4	4.8
Miscalculation of Dosage	4	4.8
Misinterpretation of the order	4	4.8
Stress (high volume workload, etc.)	4	4.8
Name Confusion	3	3.6
Transcription Error	3	3.6
Written/electronic miscommunication	3	3.6
Computer Error	1	1.2