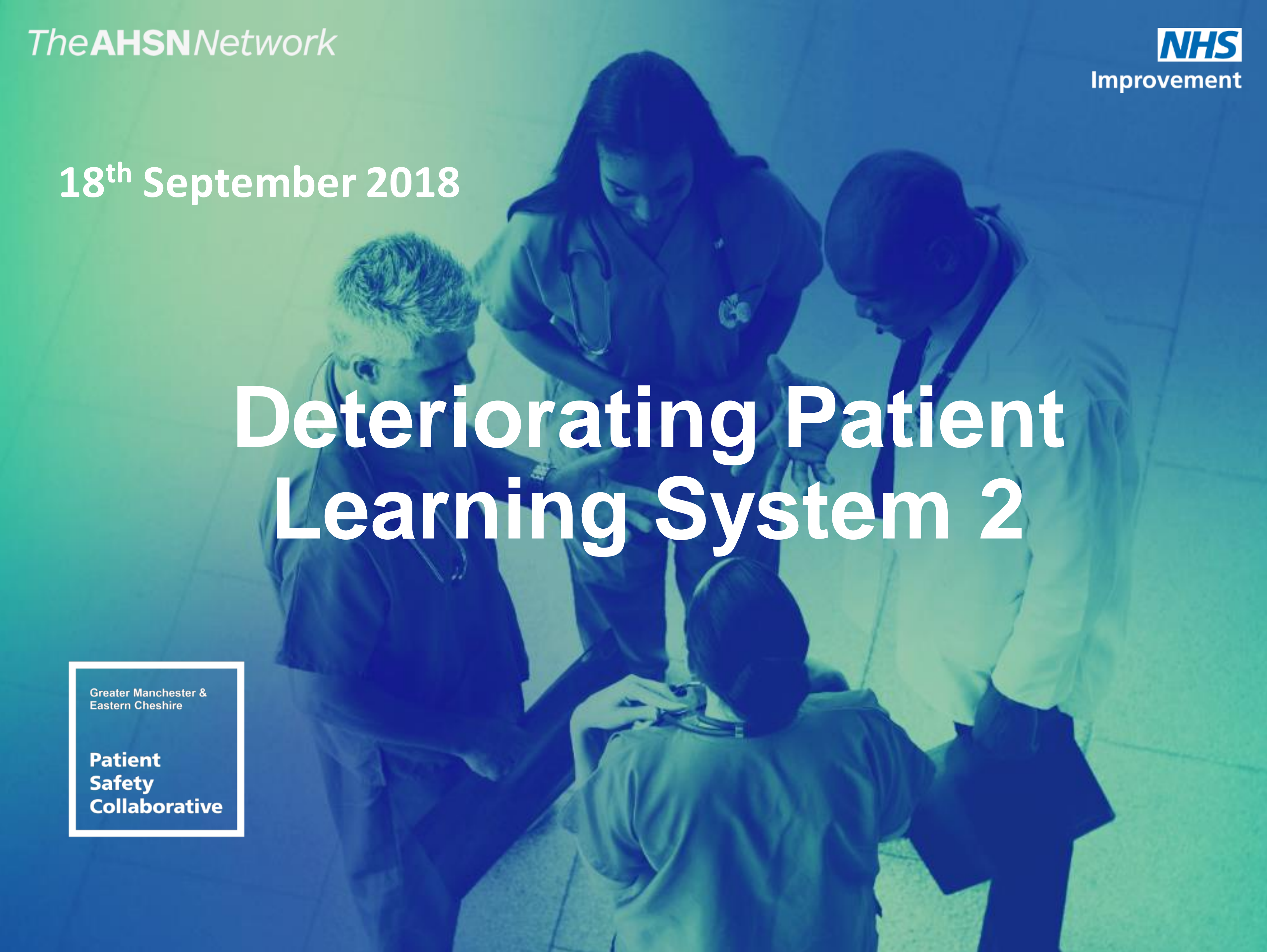

TheAHSNNetwork
NHS
Improvement
18th September 2018
Deteriorating Patient
Learning System 2
Greater Manchester &
Eastern Cheshire
Patient
Safety
Collaborative

TheAHSNNetwork
NHS
Improvement
Welcome
Professor Ben Bridgewater
Chief Executive Officer,
Health Innovation Manchester
Greater Manchester &
Eastern Cheshire
Patient
Safety
Collaborative

Greater Manchester & Eastern Cheshire

Patient Safety Collaborative

The AHSN Network

Introduction to Patient Safety Collaborative

Jay Hamilton,
Associate Director of Health & Implementation
Patient Safety Collaborative Lead

Greater Manchester & Eastern Cheshire

Patient Safety Collaborative

TheAHSNNetwork

National Patient Safety Collaboratives

Nationally Funded & Coordinated by **NHSI**

15 PSC's Delivered by **AHSNs**

Support & Encourage

Culture of Safety

Continuous Learning

Spread of Innovation for Safety

Continuous Improvement

Mandated across Health & Social care

The Patient Safety Collaborative – Our Mission

PSC Workstreams

Workstream 1: Deteriorating Patient

- *To reduce avoidable harm & enhance the outcomes & experience of patients who are deteriorating*

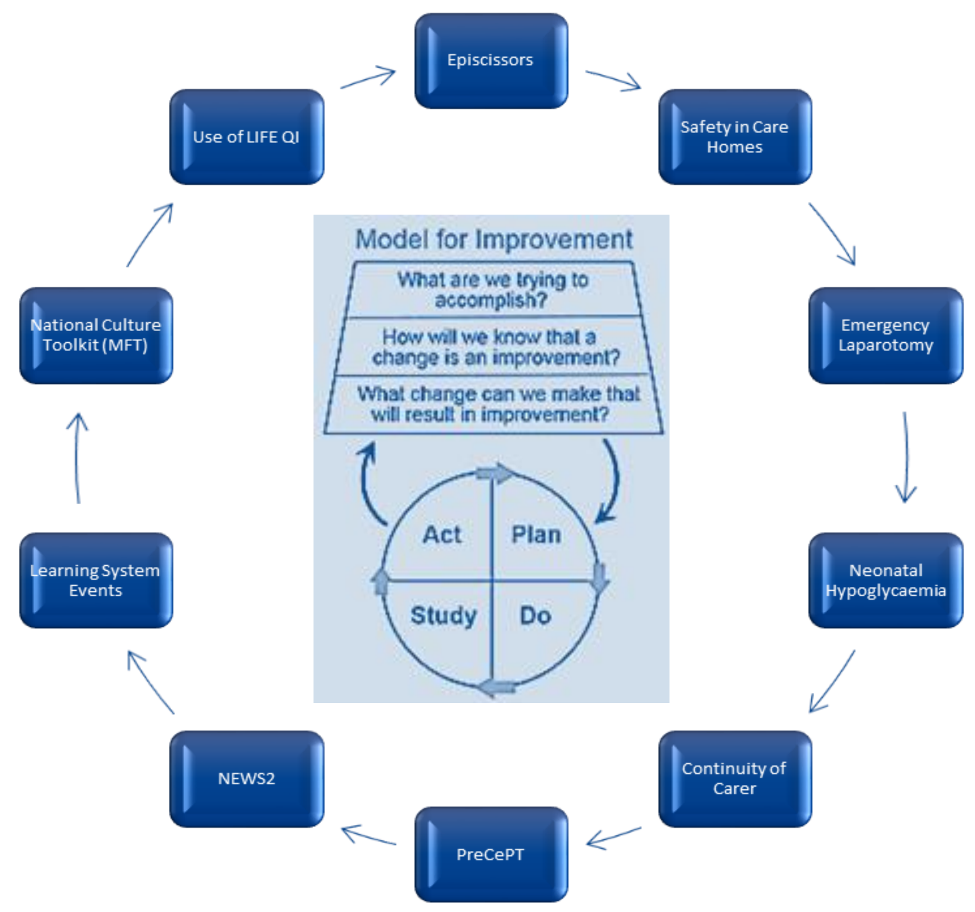
Workstream 2: Culture & Leadership

- *To help create the conditions that will enable healthcare organisations to nurture & develop a culture of safety by 31st March 2019*

Workstream 3: Maternity & Neonatal

- *To improve maternity & neonatal care, specifically reducing the rate of stillbirth, neonatal death & brain injuries occurring during or soon after birth by 20% by 2020*

PSC improvement approach for design and roll-out of initiatives



The AHSN Network

Deteriorating Patient Learning System Event 24th May 2018

"Working towards using NEWS2, collaboratively working with Greater Manchester using common language"

81 people attended from **36** organisations across primary and secondary care

Attendees rated the Learning System as *"it met my expectations"*

Created with NodeXL (http://nodexl.codeplex.com)

@GMEC_PSC
172 tweets
291,242 impressions **115** total followers

QI Knowledge average scores- Deteriorating Patient Learning System

Model for Improvement
Six Sigma
Lean
Cause and Effect (Fishbone) diagram
Process Mapping
Improvement aims
Driver Diagrams
Measurement for Improvement
Types of variation
Types of measures
PDSA cycle
Psychology of change
Sustaining and spreading improvement
0
1
2
3
4
5
—LS1

"Work together! Share the NEWS2!"

Attendees rated their current Quality Improvement knowledge with a **2.06** out of 5

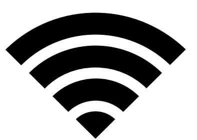
Patient story was the most helpful session of the day with a score of

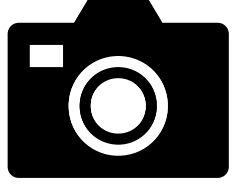
3 out of 3

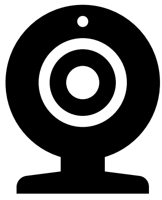
@GMEC_PSC #GMECDetPat

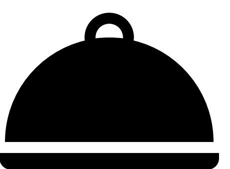
Housekeeping

@GM_PSC









For further information on Health Innovation Manchester Patient Safety Collaborative

Jay Hamilton

Managing Director Health Innovation Manchester

@healthinnovmcr

Tel: 0161 509 3891

HInM, Suite C, Third Floor, Citylabs, Nelson St, Manchester , M13 9NQ

TheAHSNNetwork

NEWS2 Implementation: Progress Report & Patient Story

Greater Manchester & Eastern Cheshire

Patient Safety Collaborative

Eva Bedford -
'Deteriorating Patient' GMEC PSC Programme Lead

TheAHSNNetwork

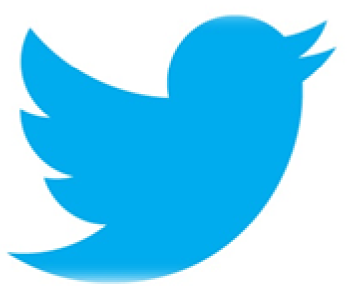
Throughout today…….

Audio Booth

Networking Sheet

QI Knowledge Questionnaire

Evaluation Sheet



@GMEC_PSC

@healthinnovmcr

#GMECDetPat

#PatientSafety

#QualityImprovement

The National Ask

Implemented in all acute trusts and ambulance services by March ’18

NEWS2 Regional Update

100%

acute trusts engaged in process

NWAS planning phased roll-out Sept '18

3 x trust implemented NEWS2

2 x trusts mapping

4 x trusts planning

PatientTrack
E- obs
All Scripts
Paris
Vital Pac
GETAC

Why?
Andy's Story

Why?
Andy's Story

The AHSN Network

NEWS2 - Changes from NEWS1 in the Respiratory Section

Dr Ronan O'Driscoll
Consultant Respiratory Physician
Salford Royal Foundation NHST

Greater Manchester & Eastern Cheshire
Patient Safety Collaborative

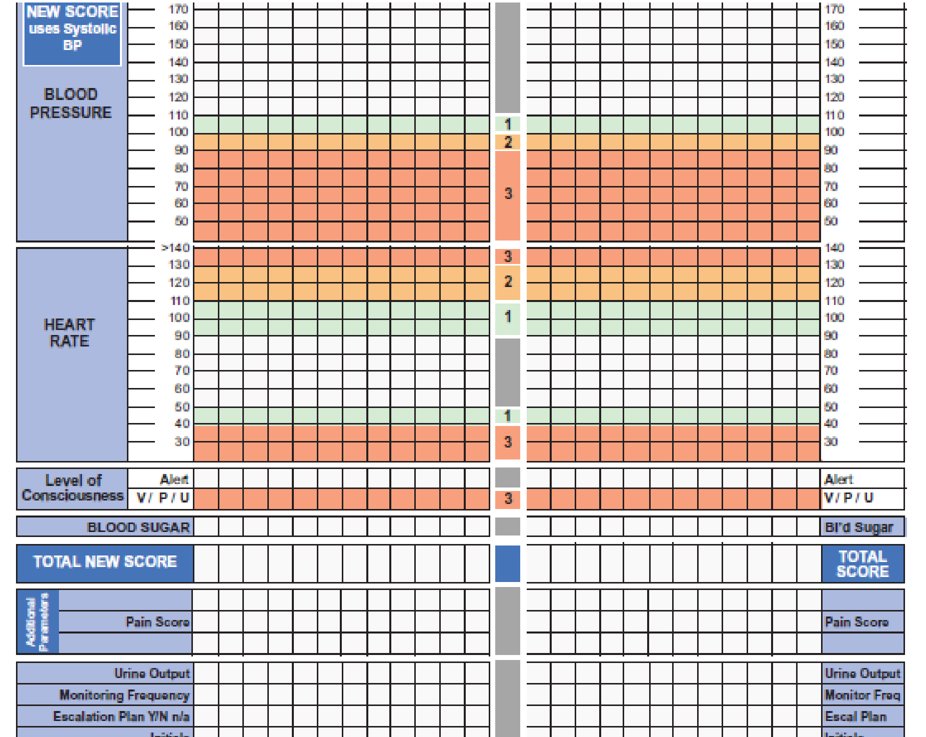
Royal College of Physicians
NEWS chart (National EWS 2012)

NEWS KEY 0 1 2 3 | NAME: | D.O.B. | ADMISSION DATE:

DATE
TIME

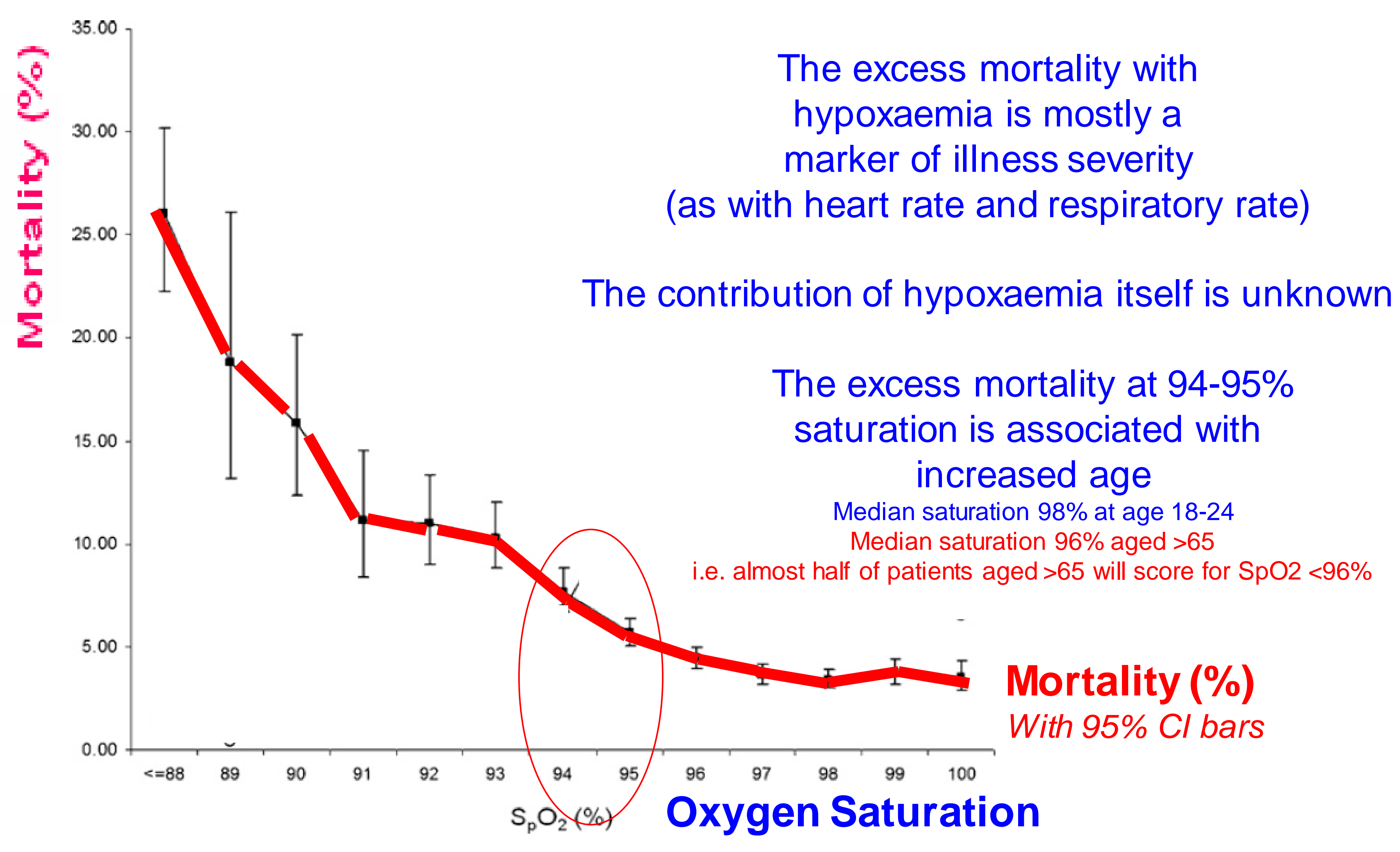
RESP. RATE: ≥25 (3), 21-24 (2), 12-20, 9-11 (1)

Sp0₂		Score
	≥96	
	94-95	1
	92-93	2
	≤91	3
Inspired 0₂%	%	2



Oxygen saturation on air and mortality for 37,593 acute medical admissions

Smith GB et al. Resuscitation 2012 ;83:1201-5



Like all drugs, oxygen has a therapeutic range

* 94-98% for most patients
* 88-92% (or lower) for patients at risk of hypercapnia

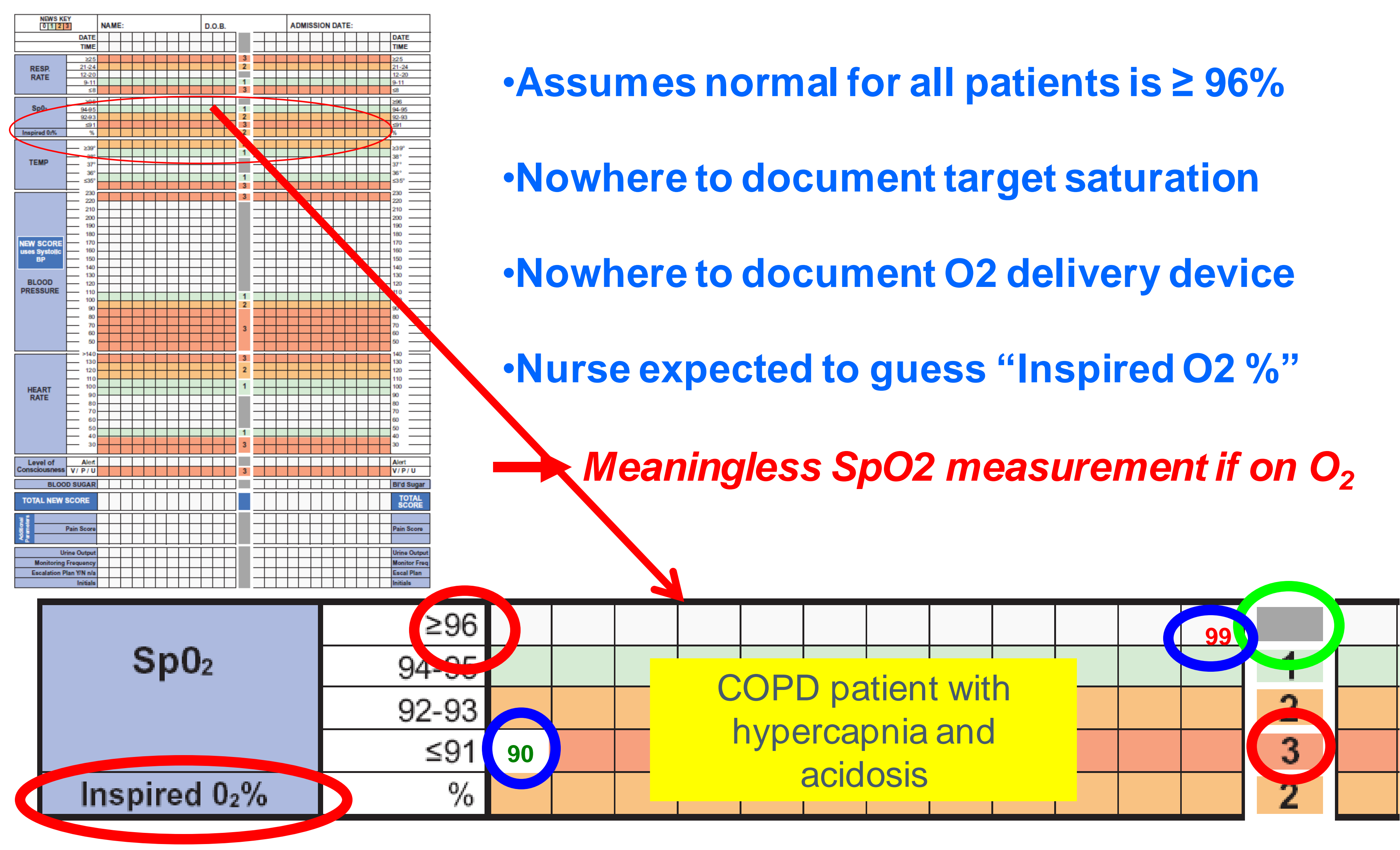
(COPD, Cystic Fibrosis, Morbid Obesity, Neuro-muscular disease etc)

Mortality may be doubled if patients with COPD are given too much oxygen*

There is also evidence of increased mortality if too much oxygen is given to critical care patients or to patients with acute medical emergencies*
(even in the absence of COPD or other risk factors for hypercapnia)

**The background slides which are available to delegates contain full references*

NEWS Observation Chart



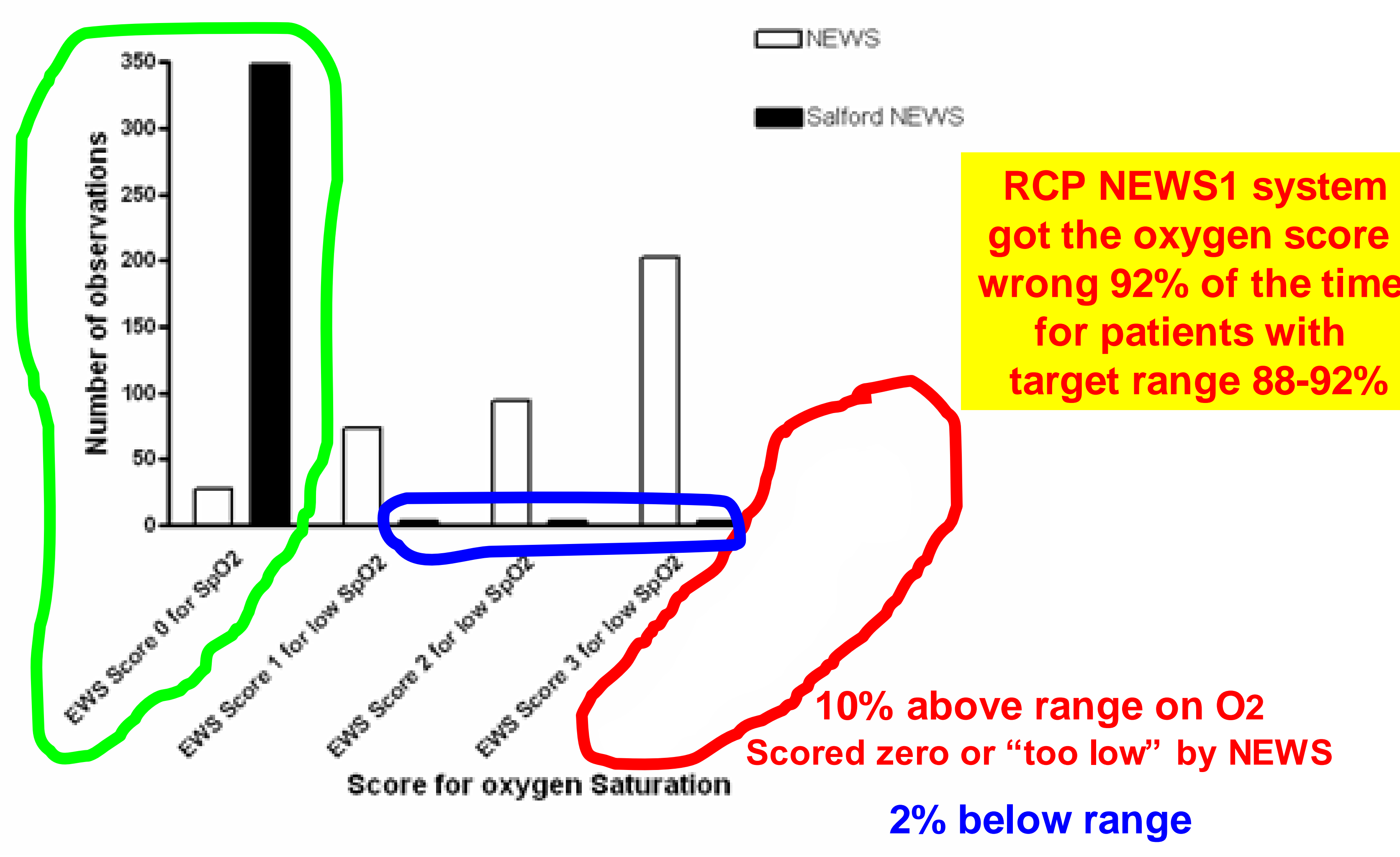
SpO_2 90% (middle of ideal range for COPD) would score 3 EWS points for "Low oxygen"

The same patient with SpO2 99% on oxygen (dangerous) would not score for SpO2

NEWS and Salford News SpO_2 Scores; 400 sets of observations for 22 patients with oxygen target saturation range 88-92%

87% of observations scored zero Salford NEWS points (within target range of 88-92% or ≥93% on air)

……………………but most scored 1-3 points using the un-modified NEWS chart



The**AHSN**Network

RESPIRATORY SECTION OF NEWS2 CHART

NEWS key 0 1 2 3

FULL NAME	
DATE OF BIRTH	DATE OF ADMISSION

		Score	
	DATE		DATE
	TIME		TIME
A+B Respirations Breaths/min	≥25	3	≥25
	21–24	2	21–24
	18–20		18–20
	15–17		15–17
	12–14		12–14
	9–11	1	9–11
	≤8	3	≤8
A+B SpO$_2$ Scale 1 Oxygen saturation (%)	≥96		≥96
	94–95	1	94–95
	92–93	2	92–93
	≤91	3	≤91
SpO$_2$ Scale 2† Oxygen saturation (%) Use Scale 2 if target range is 88–92%, eg in hypercapnic respiratory failure	≥97 on O$_2$	3	≥97 on O$_2$
	95–96 on O$_2$	2	95–96 on O$_2$
	93–94 on O$_2$	1	93–94 on O$_2$
	≥93 on air		≥93 on air
	88–92		88–92
†ONLY use Scale 2 under the direction of a qualified clinician	86–87	1	86–87
	84–85	2	84–85
	≤83%	3	≤83%
Air or oxygen?	A=Air		A=Air
	O$_2$ L/min	2	O$_2$ L/min
	Device		Device

New oximetry section for patients at risk of hypercapnia

It is clear if the patient is on air or on oxygen

Oxygen device and flow-rate is clear to see

Take away messages

- **Oxygen is a drug with a "therapeutic range" which varies between patients (The commonest target ranges are 94-98% or 88-92%)**

- **There is increasing evidence that the 20th century fashion for iatrogenic hyperoxaemia was harmful**

- **Best practice is to prescribe a target saturation range for all patients on admission to hospital** *Even better if prescribing and NEWS are electronic and integrated*

- **The target saturation range affects Early Warning Scores in NEWS2**
  Patients at risk of hypercapnia will score up to 3 NEWS points if their saturation is below target range or if above range on oxygen. Be aware that hyperoxaemia in other patients is un-necessary and may increase mortality.

CAREFUL OXYGEN USE INTEGRATED WITH NEWS2 WILL SAVE LIVES

Questions

Introduction to Life QI

Hakeel Qureshi, Project Manager, Health Implementation, Health Innovation Manchester

The AHSN Network

NEWS2

Assessment of Acute Confusion/Delirium

Dr Emma Vardy

Consultant Geriatrician and Clinical Dementia Lead

SRFT, Salford Care Organisation (part of Northern Care Alliance Group)

Greater Manchester and East Cheshire Strategic Clinical Network

Greater Manchester & Eastern Cheshire

Patient Safety Collaborative

Acute confusion

- NEWS chart scores 0 for Alert in "AVPU" section and 3 points for VPU (altered consciousness)

Level of Consciousness													
	Alert												
	V / P / U												3

- Salford NEWS chart scores 3 points for new confusion(delirious)"**AVPUC or AVPUD**"

Level of Consciousness												
	Alert											
	V / P / U / C											3

- This leads to "Code Red" and immediate clinical review of patients with delirium

Acute confusion

- Call it delirium

Delirium

- Acute confusion
- Fluctuating confusion
- Inattention
- Disorganised thinking
- Hypoactive versus Hyperactive
- Delirium is NOT dementia

Why is it important

- Life-threatening (1 in 5 dead in one month, 14.3%, similar to sepsis, higher than MI)
- Increased hospital and long-term mortality
- Unanticipated ICU admissions
- Higher risk of falls & other harms
- Increased LOS
- More likely to get dementia
- Speeds up decline in dementia
- More likely to go into care
- Distressing.....patients, families, and staff
- Common yet under-recognised

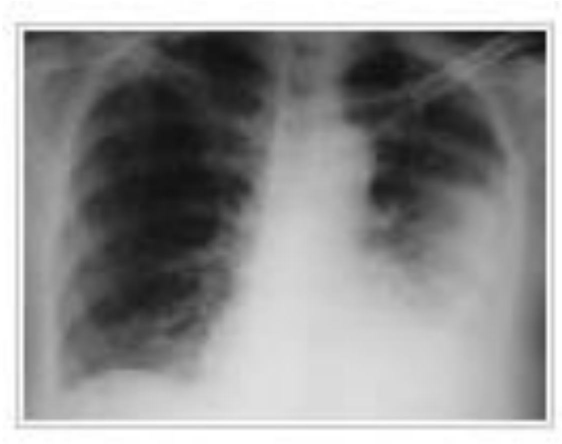
- Enid's story

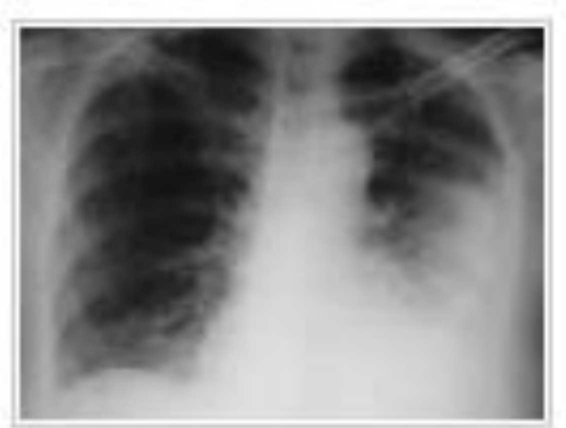
Han and Suyama, Clinics in Ger Med, 2018

Mary and Martha (Dr Tom Jackson)

Mary, 80 yrs

Martha, 80 years





Delirium

No delirium

Pneumonia +same comorbidity and acute illness

Mary more likely to die (HR 1.95), or develop dementia (OR 8.1)

JAMA psychiatry 2017
JAMA 2010

Who is at risk

- Severe illness
- Over 65 years
- Dementia
- Frailty
- Sensory impairment
- Multiple medications
- Recent fracture / surgery

Causes

- Pain
- Infection
- Intracerebral
- Nutrition
- Constipation
- deHydration
- Medication
- Metabolic Disturbance
- Environment eg sleep disturbance
- Urinary catheterisation
- Unnecessary ward moves

How to assess

- Clinical judgement alone (ED physicians), specificity 89% but sensitivity 33%

Suffuletto et al, Postgrad Med Journal 2013

Delirium Assessment Tools

Tool	Sensitivity	Specificity	Time (min)
CAM	46-100	63-100	5-7
4AT	89.7 (93)	84.1 (91)	2-3
NuDESC	85.7	86.8	1-3
RADAR	73	67	30 secs
SQiD	80-91	61-71	5 (secs)
OSLA	90	90	<1 min
RASS	82-84	85-88	<1min

Inouye et al, Annals Internal Medicine,1990;
Maclullich, Age and Ageing 2014;
Hargrave et al, Neurology, 2016;
Voyer et al, BMC Nursing 2015;
Sands et al, Palliative Medicine,2010;
Tieges et al, Am J Ger Psych,2013
Han and Suyama, Clinics in Ger Med,2018

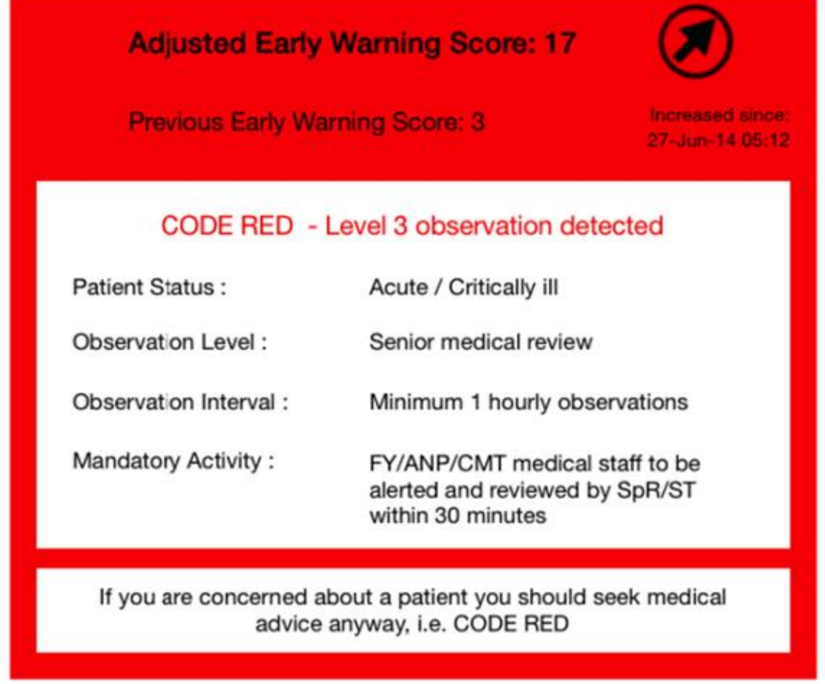
Considerations in evaluation assessment tools

- Sensitivity versus specificity
- Untestable patients screen positive
- Some require more training than others
- Validation for use in dementia
- Surrogate information
- Diagnosis versus screening

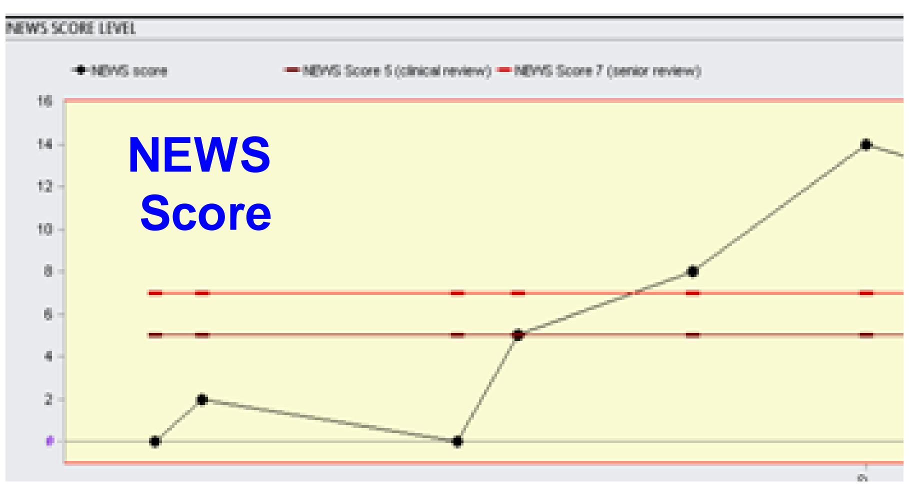
Quispel-Aggenbach et al, Age and Ageing 2018

Salford Electronic NEWS November 2014

Observations submitted to Sunrise successfully



Press to acknowledge you have seen this Early Warning Score.



CREATE | Preview

Document info

Sections

- Delirium & Dementia Ass
  - Delirium & Dementia Assess
    - 4AT Assessment
    - ED TIME Bundle
    - TIME Bundle
    - CAM
    - Dementia Assessment
    - Capacity Assessment
    - EPR Admin use only
- DOCUMENT VERSION

Retrieve Last Charted...

Insert Default Values

Clear Unsaved Data

Acronym Expansion | Allergies/Intolerances/Adverse Events

Alertness information

This includes patients who may be markedly drowsy (e.g. difficult to rouse and / or obviously sleepy during assessment) or agitated / hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Alertness score

- Normal (fully alert, but not agitated, throughout assessment) - 0
- Mild sleepiness for <10 seconds after waking, then normal - 0
- Clearly abnormal - 4

AMT4 information

Age, date of birth, place (name of the hospital or building), current year.

AMT4 score

- No mistakes - 0
- 1 mistake - 1
- 2 or more mistakes / untestable - 2

Attention information

Ask the patient: "Please tell me the months of the year in backwards order, starting at December." To assist initial understanding, one prompt of "what is the month before December?" is permitted.

Attention score

- Achieves 7 months or more correctly - 0
- Starts but scores < 7 months / refuses to start - 1
- Untestable (cannot start because unwell, drowsy, inattentive) - 2

Acute change or fluctuating course information

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (e.g. paranoia, hallucinations) arising over the last two weeks and still evident in last 24 hours. To help elicit any hallucinations and / or paranoid thoughts, ask the patient questions such as 'Are you concerned about anything going on here?'; 'Do you feel frightened by anything or anyone?'; 'Have you been seeing or hearing anything unusual?'.

This item requires information from one or more sources, e.g. own knowledge of patient, other staff who know the patient, GP letter, family or carers.

Acute change or fluctuating course score — No - 0 | Yes - 4

TOTAL SCORE 12

Refer to the detailed score information below once the assessment is complete

Assessment Score Information

Score of 4 or more

Possible delirium +/- cognitive impairment.
TIME bundle to be completed within 2 hours of this assessment - proceed to the next section / tab.

Diagnosis

Delirium present — Yes | No

Need Help? Mark Note As: Results pending | Priority | Incomplete | E&M Calculation | Charge Capture SuperBill

Save | Cancel

CREATE | Preview

Sections

- Delirium & Dementia Ass
  - Delirium & Dementia Assess
    - 4AT Assessment
    - ED TIME Bundle
    - TIME Bundle
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- Starts but scores < 7 months / refuses to start - 1
- Untestable (cannot start because unwell, drowsy, inattentive) - 2

Sunrise Clinical Manager

SCM Notice

Please note this will create a health issue and significant event of Delirium

OK

function (e.g. paranoia, hallucinations) arising over the last two weeks and still evident in patient questions such as 'Are you concerned about anything going on here?'; 'Do you g unusual?'.

This item requires information from one or more sources, e.g. own knowledge of patient, other staff who know the patient, GP letter, family or carers.

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TOTAL SCORE 12

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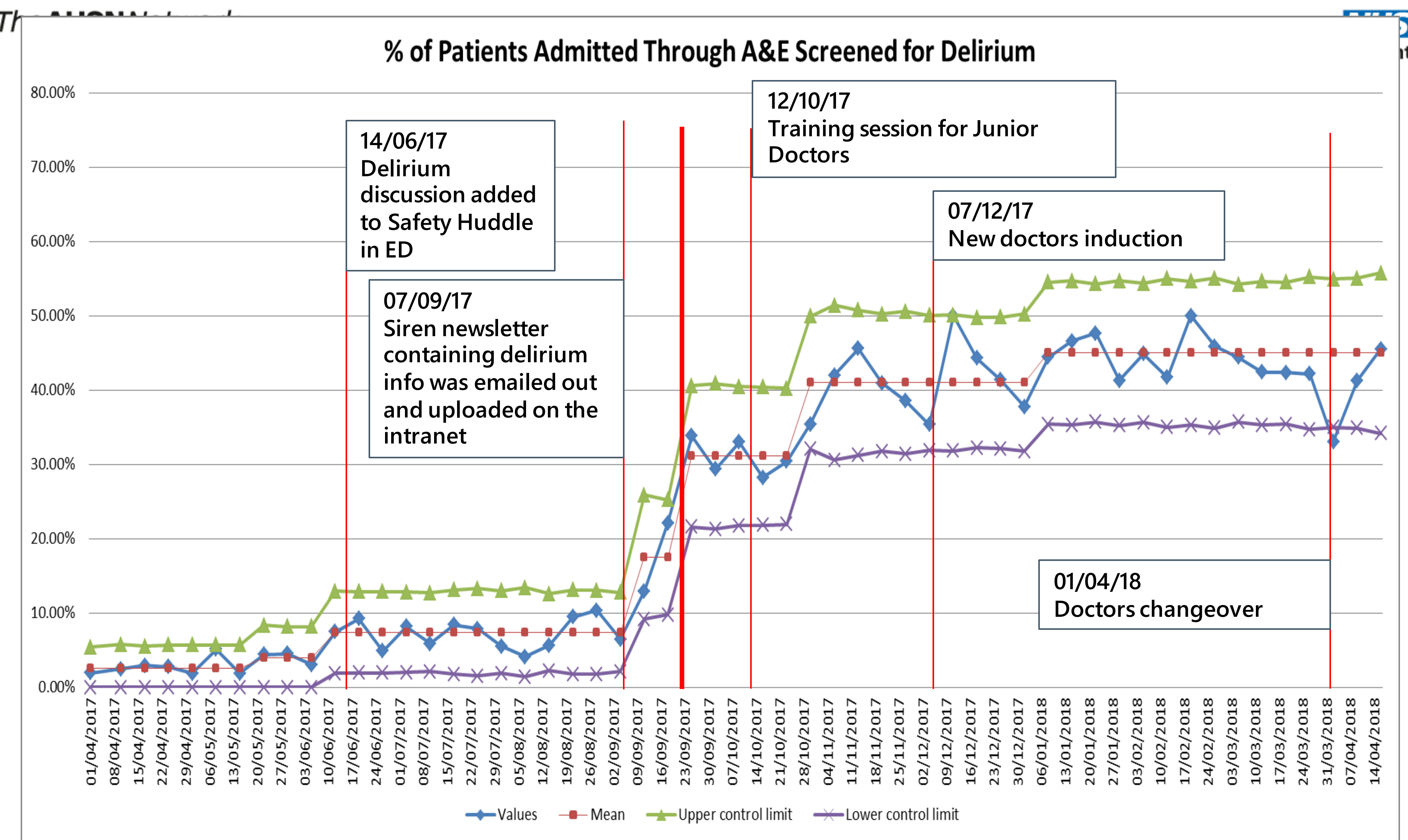
Delirium present — Yes / No

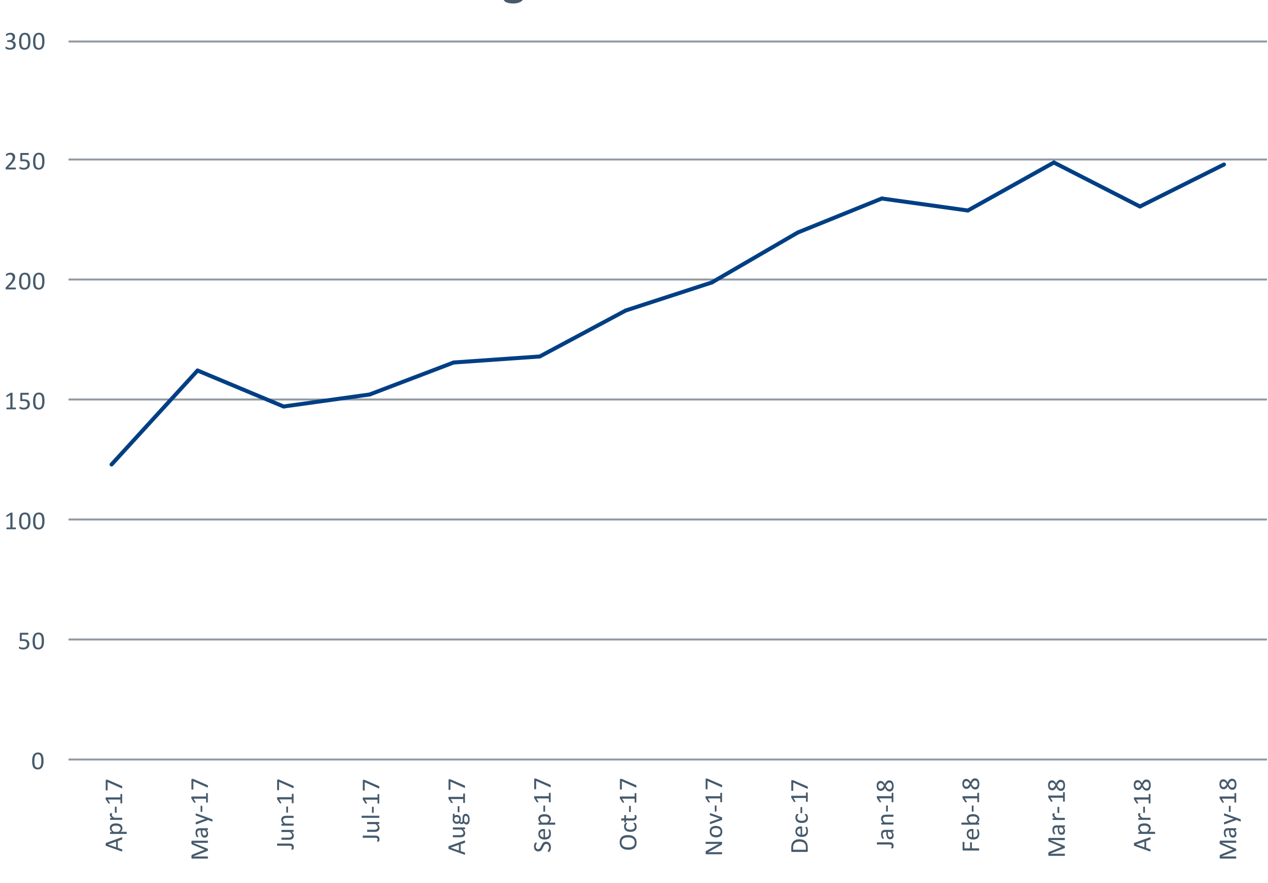
Need Help? Mark Note As: Results pending | Priority | Incomplete | E&M Calculation | Charge Capture SuperBill

Save | Cancel



19/09/17: EPR changes as part of GDE Programme went live

@GMEC_PSC #GMECDetPat


No. Diagnosed with Delirium
300
250
200
150
100
50
0
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18

Considerations

- How often should patients be assessed and scored for delirium in a 24 hour period?

- What tool should be used to assess for delirium?

emma.vardy@srft.nhs.uk
@emmavardy2

Café Workshop

SECTION 1 – Group Activity

25 minutes

Write your answers on the sheets provided:

- **Question 1**: How often should patients be assessed and scored for delirium in a 24h period?
- **Question 2**: What tool should be should be assess for delirium? ((*Consider the pros and cons of the various assessment tools provided– e.g. NuDESC, RADAR, 4AT, SQiD).*

•SECTION 2 – Feedback and Discussion

20 minutes

Please nominate 1 person from your table to provide feedback

Enid's Story: Video clip

Source: Salford Digital Delirium Pathway

TheAHSNNetwork

Exemplar Projects

Peter Grace, Emergency Nurse Practitioner &
Clinical Nurse Lead for Digital Health,
Tameside and Glossop Integrated Care NHS FT

Greater Manchester &
Eastern Cheshire

Patient
Safety
Collaborative

Anne Gerrard & Hugo Buckley, Nurse
Consultant CCOT and Consultant Intensivist
Bolton NHS Foundation Trust

TheAHSNNetwork
NHS
Improvement
New NEWS
New Challenge
New Opportunity
Oxygen Therapy
Greater Manchester &
Eastern Cheshire
Patient
Safety
Collaborative
Anne Gerrard & Hugo Buckley
Nurse Consultant CCOT and Consultant Intensivist
Bolton NHS Foundation Trust

NEWS at Bolton

- NEWS
  - NEWS 2
    - transition
    - Electronic
      - E-Obs
      - EPR
      - Patientrack

Opportunities

Scale	SpO₂	Score	SpO₂
A+B SpO_2 Scale 1 Oxygen saturation (%)	≥96		≥96
	94–95	1	94–95
	92–93	2	92–93
	≤91	3	≤91
SpO_2 Scale 2† Oxygen saturation (%) Use Scale 2 if target range is 88–92%, eg in hypercapnic respiratory failure	≥97 on O_2	3	≥97 on O_2
	95–96 on O_2	2	95–96 on O_2
	93–94 on O_2	1	93–94 on O_2
	≥93 on air		≥93 on air
	88–92		88–92
†ONLY use Scale 2 under the direction of a qualified clinician	86–87	1	86–87
	84–85	2	84–85
	≤83%	3	≤83%

With opportunity comes challenge

misunderstanding

decision making

prescribing & documentation

Oxygen therapy – decision maker

ical decisio … ker should

n ab … he

atur … EWS

pecif … to patients with

iratory failure (usually COPD

r 'usual' oxygen saturations to

in accor …

g Score (NEW …

>ST3; RNP; CCOT

?documentation?

The**AHSN**Network

With challenge comes opportunity

Current oxygen prescription

YEAR: DATE/MONTH						
TICK OR INSERT TIMES REQUIRED			G	G	G	G
Oxygen (Refer to Trust Oxygen Policy)	08-09.00					
	12-13.00					
Circle target oxygen saturation 88-92% 94-98% Other................... | Device............................ Flow rate........................ PRN/Continuous | Tick if saturation not indicated ☐	16-17.00					
	21-22.00					
Sign: | Print Name:						
Bleep: | P | Pharmacist Signature	ADDITIONAL INSTRUCTIONS:					

Performance

Bolton

25
20.8
4.2
29.2
20.8

- 94-98
- 88-92
- other Tx
- other Dx
- none

National

29.8
18.3
4.6
4.8
42.5

- 94-98
- 88-92
- other Tx
- other Dx
- none

Next steps…

Respiratory

Pharmacy

CCOT

ANP

Proposed new changes…

YEAR: DATE/MONTH								
TICK OR INSERT TIMES REQUIRED			G	G	G	G	G	(
Oxygen (Circle the correct scale below - Refer to Trust Oxygen Policy)	08-09.00	✔						
	12-13.00	✔						
Scale 1 Target oxygen Saturation: 94-98% / **Scale 2** Target oxygen Saturation: 88-92% / **Other** Target oxygen Saturation: ____%	16-17.00	✔						
	21-22.00	✔						
Sign: / Print Name:								
Bleep: / Grade: / Pharmacist Signature: / ADDITIONAL INSTRUCTIONS:								

YEAR: DATE/MONTH								
TICK OR INSERT TIMES REQUIRED			G	G	G	G	G	(
Oxygen (Circle the correct scale below - Refer to Trust Oxygen Policy)	08-09.00	✔						
	12-13.00	✔						
Scale 1 Target oxygen Saturation: 94-98% / **Scale 2** Target oxygen Saturation: 88-92% / **Other** Target oxygen Saturation: ____%	16-17.00	✔						
	21-22.00	✔						
Sign: / Print Name:								
Bleep: / Grade: / Pharmacist Signature: / ADDITIONAL INSTRUCTIONS:								

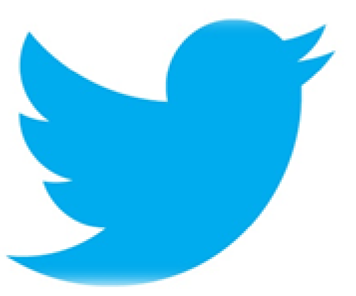
With challenge comes opportunity

During the lunchbreak…….

Networking Sheet

QI Knowledge Questionnaire

Evaluation Sheet



@GMEC_PSC

@healthinnovmcr

#GMECDetPat

#PatientSafety

#QualityImprovement

Audio Booth Questions

- What do you think are the greatest challenges to improving patient safety within your team/organisation?
- What aspects of patient safety or quality improvement would you like to discuss at the next learning system event?