

# SPSP Acute Adult Deteriorating Patient Webinar:

# Using eObservations to recognise and respond to deterioration

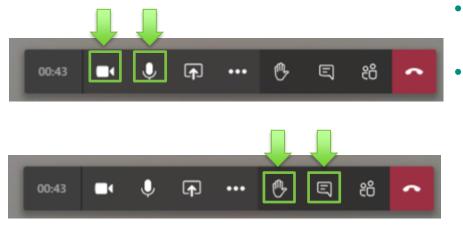
6 September 2022





### Meeting participation





- During the meeting please have your microphone on mute and video turned off
- To take part in discussions use the chat box or raise your hand and wait to be invited to speak, please then:
  - unmute your mic
  - turn on your video (if you are happy to do so)
  - after speaking please re-mute and turn your video off

### Trouble shooting





Any technical issues, please contact:

Sara

- MS Teams chat or
- Email: his.acutecare@nhs.scot





- Share learning from NHS Fife, NHS Lothian and NHS Lanarkshire who have taken different approaches to electronic observations
- Explore and discuss the benefits and challenges of using eObservations in NHS Scotland

### Agenda



Time	Торіс	Lead
14:00	Welcome, aims & introductions	<b>Dr Gregor McNeill</b> , SPSP Acute Adult National Clinical Lead, Healthcare Improvement Scotland
14:10	Benefits & challenges of implementing eObs in NHS Scotland – reflections on Dublin	<b>Dr Gregor McNeill</b> , SPSP Acute Adult National Clinical Lead, Healthcare Improvement Scotland
14:15	eObs reflections from NHS Fife	<b>Dr Gavin Simpson,</b> Consultant in Intensive Care Medicine, NHS Fife
14:30	Developing a new eObs system within an existing Electronic Patient Record - the Lothian experience	<b>Dr Nicola Maran</b> , Anaesthetist and Associate Medical Director for Patient Safety, NHS Lothian
14:45	Comfort break	
14:50	eObs in NHS Lanarkshire: Our learning	Karen Goudie, Chief Nurse, NHS Lanarkshire
15:05	Q&A	All
15:20	Next Steps	<b>Dr Gregor McNeill,</b> SPSP Acute Adult National Clinical Lead, Healthcare Improvement Scotland
15:30	Close	

### **Benefits & challenges**



SCOTTISH PATIENT

SAFETY





#### A Systems Approach to the Clinically Deteriorating Patient

#### TUESDAY, 14 JUNE 2022

The Inaugural Deteriorating Patient Improvement Programme (DPIP) Conference #DPIPCONFERENCE2022

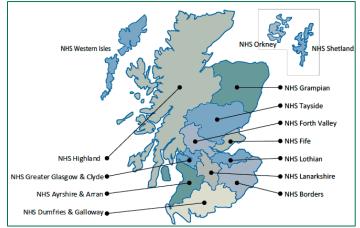






### **Benefits & challenges**















### eObs reflections from NHS Fife

#### **Dr Gavin Simpson** Consultant in Intensive Care Medicine NHS Fife

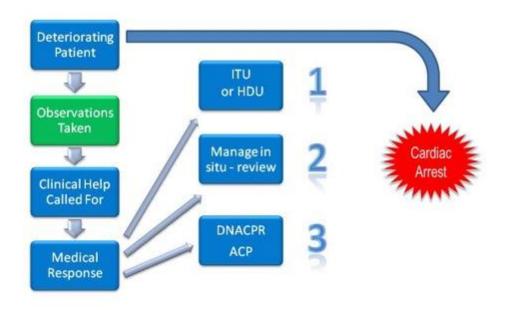






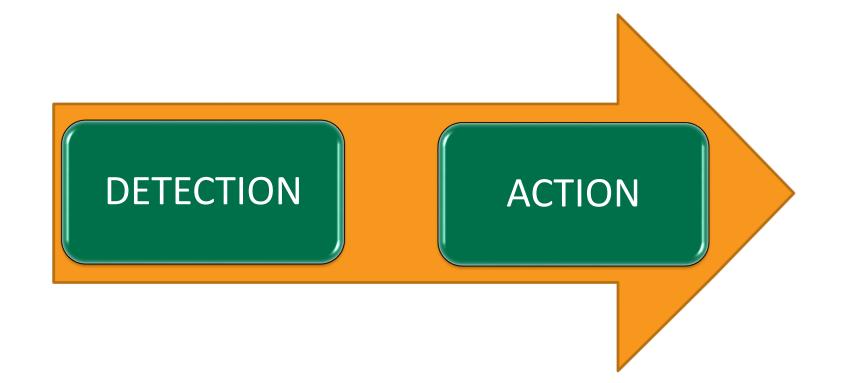


# Know the Score≥ **Triage**



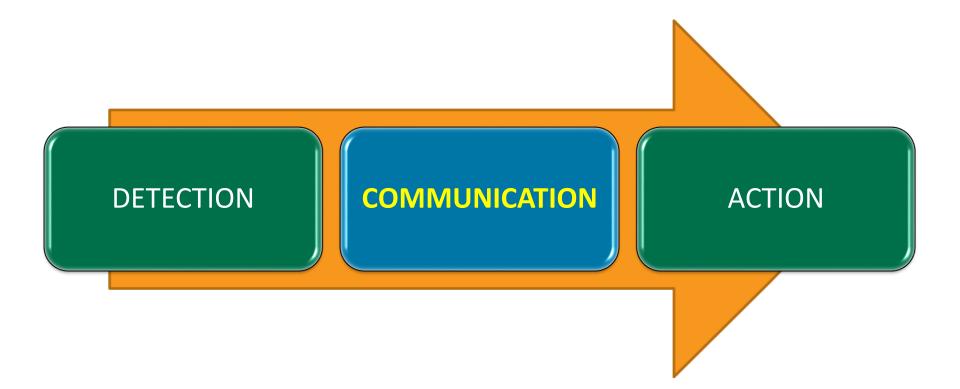
### Process





### Process



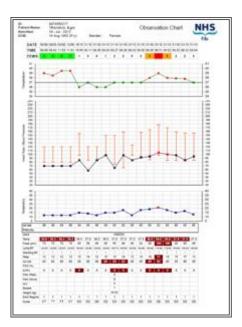


### Communication



- View charts anywhere
- Alerting
- Virtual wards
- Handover + Huddles
- Next OBS due
- Flags
- Patient specific







### Learning



- OBS on time
- OBS complete
- Chain length
- How unwell?
- Where unwell?





## Developing a new eObs system within an existing Electronic Patient Record

- the Lothian experience

#### **Dr Nicola Maran** Anaesthetist and Associate Medical Director for Patient Safety NHS Lothian



#spspDetPat





- Inaccurate or incomplete NEWS scoring
- Missed obs / frequency incorrect for given NEWS score
- Unreliable documentation of escalation
- Unreliable documentation of special instructions
- Lack of shared oversight of sickest patients at ward, department, site level.

### Integrated to EPR



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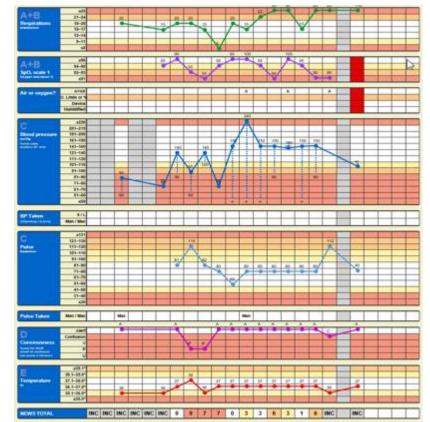
# Reflects current NEWS chart functionality



NEWS2 Graph EWS Data Entry SP02 Scale Special Instructions Escalation		NEWS2 Graph EWS Data Entry SPO2 Scale Special Escalation
> EWS Data Entry		
+ EWS Obs Recording		v SPO2 Scale
Early Warning Scores		
REMEMBER Record all observations Consider NEWS Score and Special Instructions Escalate according to NEWS criteria, or any clinical concern, if required Review and increase the frequency of observations if required If at any point duming your assessment you are concerned about your patient CALL FOR HELP Platients who are under 16 and/or pregnant should have their EWS calculated on the relevant paper chart	ወ NEW52 ወ ዓ	Scale 1 Control of scale change
Observations not taken		
Observation Item	EWS Range Sco	Score
A+B Respirations (development) 21 Scale 1 ①		2 AURWAY Apply
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E Temperature [g]		© User KN41 © EXPOSURE Apply
		Edit History

# Reflects current NEWS chart presentation





WS TOTAL	3	0						
								 _
Observations/Comments	Y							
Monitoring frequency	1hr	12hr						
Escalation of care Y/N	Y	N						
Initials	KN41	KN41						
Urine Output recorded	Y	N						
Blood Glucose Level	6.5	03-	Aug 2	022 17	7:34			
Pain Score	0	Ente	ered by	Kiran	Naik			
Nausea Score	0	1						
Motor Block Score	0	1						
GCS Score	15	11						
Circulation	1	x						
Sensation	1	x						
Movement	1	x						
Surgical Wound	1	x						

## Prompts for Escalation and Action linked to NEWS



200000721	Macrae	Test	22/09/1989	32 Yrs	Female		Dr Sarah C Thomasse	t	CHE	📑 🕈 👘
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## Documentation of Escalation into Clinical Notes



NEWS2 Graph EV	S Data Entry SPO2 Scale Special Instructions Escalation				Last Update Time 19:22		
> EWS Obs [Across A	ll Episodes]					-	
> Treatment Escala	ition Plan ONew			> DO NOT US	E		
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please ensure that				Time Created		Updated	Edit
Escalation Date	24/07/2022 Escalation time 17:25		unisation			•	
Grade escalated to	·			08/06/2022		08/06/2022 Nicola Maran	
	Desc Code X FY1/FY2 F		lication	19:22		19:22	
	Consultant C				v		
	Clinical Fellow CF						
	CT/ST1-3 CT ST3+ ST						
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	User KN41				Grade Escalated To: FY1/FY2		
	Password				Escalation reason: EWS, Clinical concern		
	Apply						
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# NEWS integrated to ward floorplan



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### Integrated Overview board



EPR	Name	¢ СНІ	Current Ward	♦ Parent Ward	NEWS	NEWS change	NEWS date and time	\$pecial Instructions	Escalation status	Escalation <sup>‡</sup> date and time	Treatment Escalation Plan
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EPR	Forth Naik		Mears Ward AAH		15	Ŧ	11/08/2022 15:53		8	13/06/2022 10:24	Ū
EPR	R MacKtest		Mears Ward AAH		10	t	12/08/2022 09:25		0	23/06/2022 15:28	Ō

### Searchable within TRAK



						D	eteriorating			ard						
							Last updat	ed on 12/08/20	22 11:23:45							
Reload tabl	le			_	_										naik	Search:
EPR	<b>♦</b> Name	CHI Current <sup>\(\)</sup> Ward	Parent Ward	NEWS	NEWS change	NEWS <sup>\$</sup> date and time	Special Instructions	Escalation status	Escalation date and time	Treatment Escalation Plan	\$ Specialty	¢ Care Provider	¢ Hospital	Bed	Planned Discharge Date	Risk Assessment Lapsed
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Showing 1 t	o 2 of 2 entries	(filtered from 29 total e	entries)													

### **Development & governance**



- Part of 'Model Ward' project led by Gillian McAuley, Acute Nurse Director
- Multiprofessional team
  - E-health, nursing, medical, QI, LACAS
- Regular weekly / fortnightly meetings
- Review findings, adapt to challenges identified
- Identify and respond to risks
- Develop measurement plan
- Reporting & approval via Acute CMG





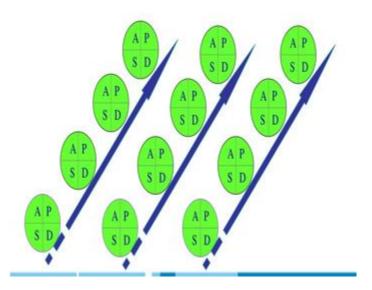
- Software glitches
- Interface hardware
- Use of current SOPS
- Early 'adopters'!







- Development environment on TRA
- Desktop, low &mid fidelity simulation
- Ward based simulation
- Wide engagement
  - >150 nurses, docs, CSW's, AHPs
  - Multiple specialities, sites & contexts
- Training materials
- Contingency plans



## ELCH launch 29<sup>th</sup> August 2022









Implementation plan

Community sites  $\implies$  MH $\implies$ Acute

- Hardware interface options appraisal and testing
- Review current escalation SOP
- Regular review, revision and testing



- Gillian McAuley Acute Nurse Director
- Gill Webb, Kiran Naik & all of the E-health team
- Carolyn Swift & Quality Improvement Directorate team
- Lorna Turner, Laura Thompson & LACAS team
- Kenzie Smith & all the NHS Lothian staff who have given their time to help us develop and test the system

#### THANK YOU!

### Comfort break







# eObs in NHS Lanarkshire: Our learning

Karen Goudie Chief Nurse NHS Lanarkshire





### Drivers



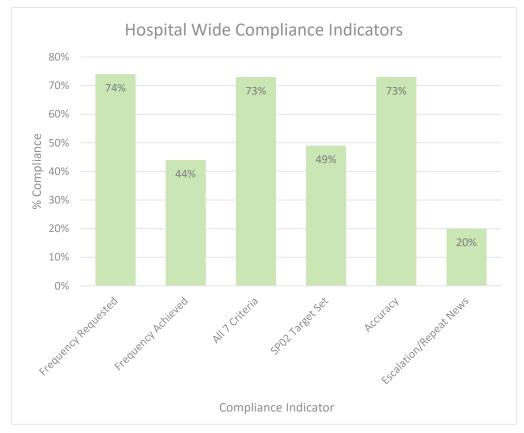
**Scotland's first Digital Hospital** 





### Why eObs





# 27% site compliance with the NEWS audit bundle CHAOS in our System

#### EWS system unreliable

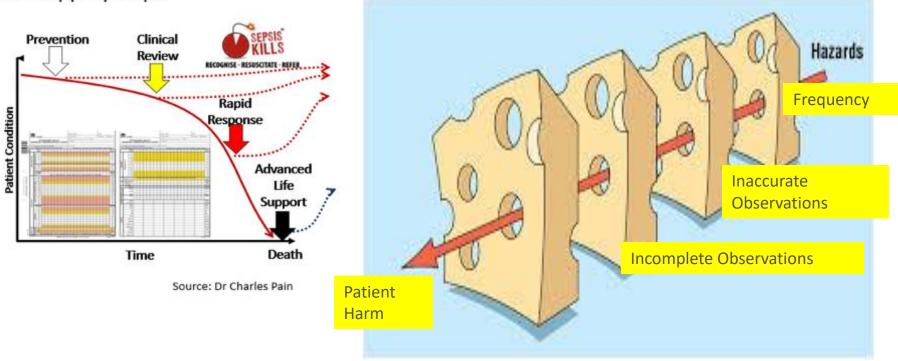
- Risk of not picking up deteriorating patients resulting in harm
- Reliant on human escalation via traditional methods
- Use of LANQUIP for current audit processes

   no issues identified false assurance
   provided via sample data collection
- No hospital-wide intelligence of deteriorating patients
- Requirement to test digital solutions as part of MRP

### **Deteriorating patients**

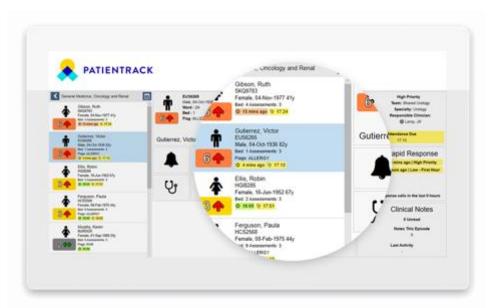


The 'slippery slope'



### Whole System intellegience







### Patientrack





	Gutierrez, Vic	or		
(Lying) r	mmhg			37.5
Ag BP (Standing) n	nmhg			30/75
eart Rate* /minute			78	
eart reater /minute			/0	78
espiration Rate* Breath	/ min		23	23
WPU*		A	lert	et
xygen Saturation* %			93	93
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Rest (Rest)				
Move	ment)		9	0
	4	5	6	RA
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#### Automation releasing time to

#### care

Wireless connectivity – automatic upload of 6 NEWS parameters

- Monitor that performs readings and automatically interfaces with Patientrack on iPad, automatically producing NEWS score
- Removes need for human entry and transcription error
- Potential for remote monitoring
- Respiratory Rate technology





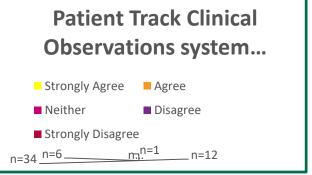
### Research – releasing time for quality of care



- Extrapolation of these data into the 56,000 sets of vital signs collected during the *twelve week (four ward) study period*, equated to 28,000 minutes saved, (467 hours, 12.4 weeks whole time equivalent RN (if RN recording), time released to care for our patients.
- Further extrapolation of these data University Hospital Monklands wide could be illustrated as follows:
- <u>Pilot data</u> Time saving per ward = 467 hours (12 weeks) / four wards (pilot wards in the study)
- = 116.5 hours per ward over 12 weeks
  - = 116.5 hours / 12 weeks
- <u>= 9.7 hours per ward per week</u>
- University Hospital Monklands has seventeen "general" wards that would adopt patientrack and the wireless recording of vital signs. Data could be illustrated hospital wide as follows:
- <u>Potential</u> Time saving per ward UHM
- = 9.7 hours per week x 52 weeks (p.a.)
- = 504.4 hours p.a. per ward
- Potential Time saving hospital wide
- = 17 (wards UHM) x 504.4 hours p.a. (per ward)

= 8,574.8 hours hospital wide / 37.5 hours

= 228.65 whole time equivalent nursing weeks



### Digital and insitu teaching

INNOVATION

Nurses' experiences of recording vital signs electronically: a pilot study

A patient's National Early Warning Score is calculated based on their vital signs. A study trialled a system called Patientrack that records vital signs electronically; this article discusses the results for patients and feedback from staff

*"Electronic recording of vital signs did not replace critical thinking and clinical assessment when dealing with a deteriorating patient"* 

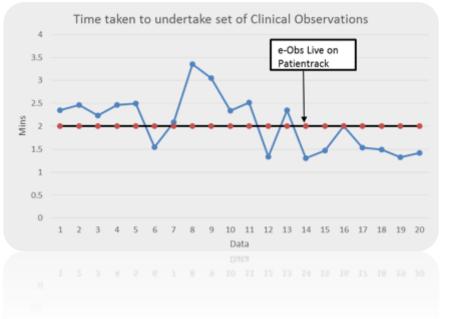




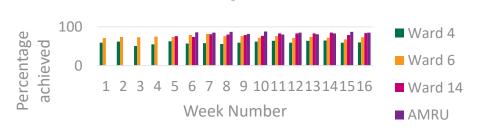
- Programme of training & with nursing staff through bedside teaching in collaboration with HECT Team
- 1:1 training with nursing staff on Patientrack system
- Ward level information displayed on Ward view screens giving 'at a glance' ward level insight for team
- Access and visibility anywhere in hospital and remotely via device
- Whole hospital Huddle sickest patients **First**

#### Outcomes





- Reduced variation in the time taken to undertake a set of observations
- Estimated 30 second reduction in time taken per set of observations

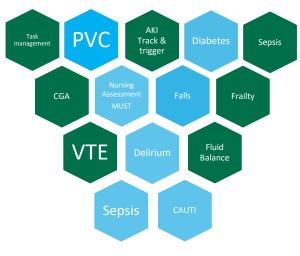


**OBS Completed on time** 

• Compliance increased from 27% to 72% against the NEWS audit bundle



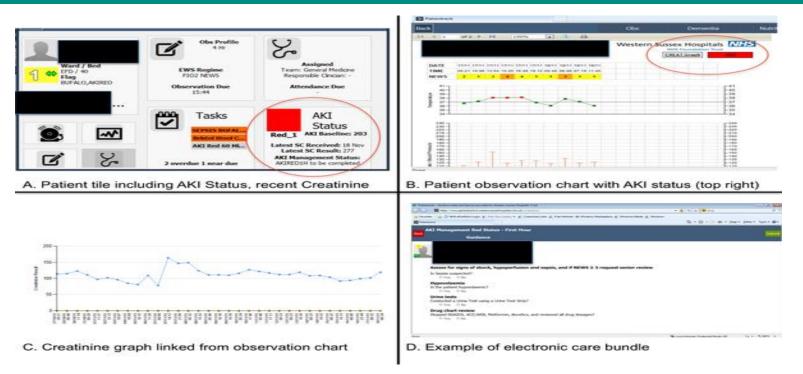
#### Benefits Realisation, Board targets, HEAT, Safety, Quality Management





#### All deterioration - AKi

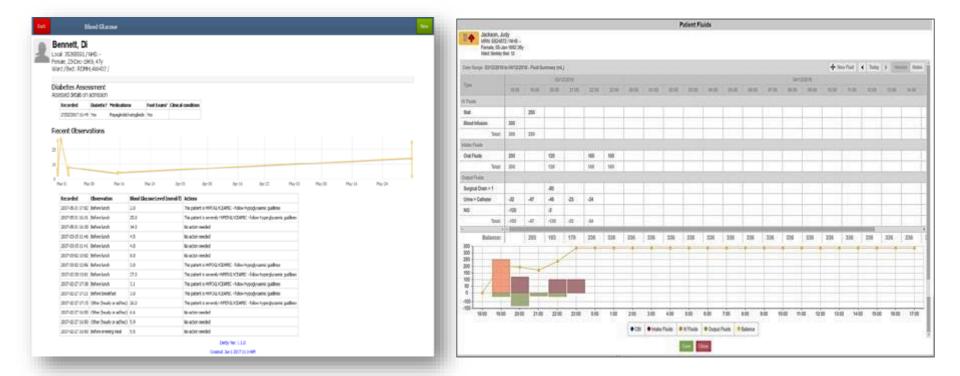




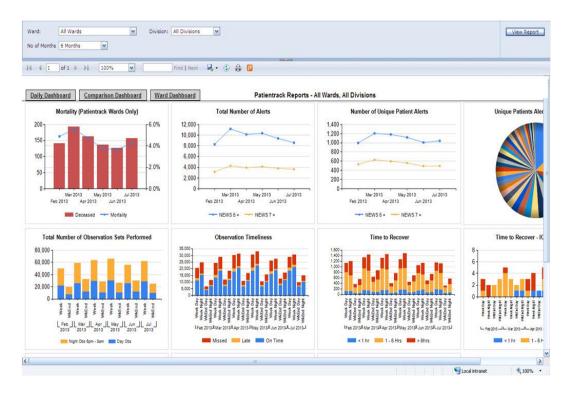
Hodgson LE, Roderick PJ, Venn RM, Yao GL, Dimitrov BD, et al. (2018) The ICE-AKI study: Impact analysis of a Clinical prediction rule and Electronic AKI alert in general medical patients. PLOS ONE 13(8): e0200584. https://doi.org/10.1371/journal.pone.0200584 https://iournals.plos.org/plosone/article?id=10.1371/journal.pone.0200584

#### Cover for conditions





# Big Data ...whole system intelligence



- Digitalisation of patient observations helps improve patient safety
- Needs co-ordinated and committed effort to implement and sustain

Healthcare

PATIENT SAFETY PROCEMENT

- Opportunity to adapt to service needs – Sepsis tile/ New Stroke bundle tile
- Robust IT Infrastructure required Involve staff in the process from conception





#### Feedback







SPSP National Learning Event:

Creating the Conditions for Safe Care, 27<sup>th</sup> September,

- For virtual attendance Register here
- SPSP leads coordinating in-person attendance

#### **Related Resources**

- Principles of Structured Response to deterioration <u>resource</u>
  - <u>Mapping tool</u> and <u>simulation exercise</u>
- Identifying and learning from cardiac arrests <u>resource</u>







## Thank you







# his.acutecare@nhs.scot@SPSP AcuteAdult

#### To find out more visit ihub.scot