

TUH Living Lab

HSE Digital Academy Forum

05/10/2020



HSE Digital
Transformation

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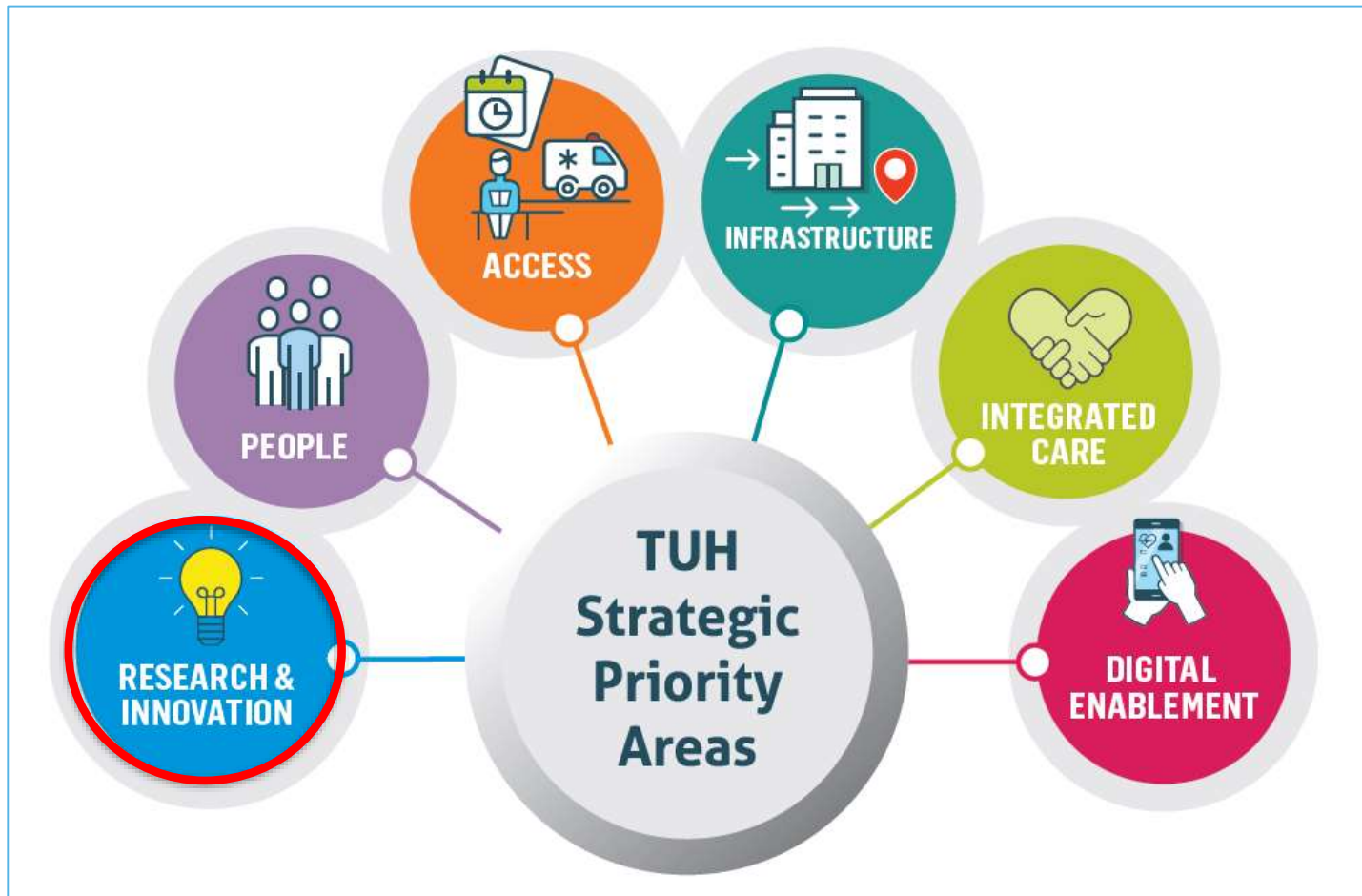
Tallaght
University
Hospital

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta

Ms. Lucy Nugent Chief Executive

Dr. Dan Ryan Consultant Geriatrician/Stroke
Physician



5.

Research & Innovation – build a reputation for translational research, implementation science and innovation to underpin safer, better and more integrated care



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TUH Living Lab



Innovation Framework Developed
Recruit Innovation Manager

TUH/HSE Living Lab Projects

- Vital Signs Automation
- Single Sign On
- COPD
- Video Streaming Glasses
- Digital Assistants
- Artificial Intelligence



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Vital Signs Automation

Electronic Early Warning Score System



Total Score	Minimum Observation Frequency	ALERT	RESPONSE
5 (11) Score of 3 for AVPU	15 hourly or as indicated by patient's condition	Nurse in Charge & RMO	<ol style="list-style-type: none"> RMO & treating Consultant to review immediately. If treating Consultant is unavailable, contact Anaesthetist Registrar. Nursing admin to be informed/involved. Continuous patient monitoring recommended. Plan to transfer to a higher level of care. Activate Cardiac Arrest if appropriate.

IMPORTANT

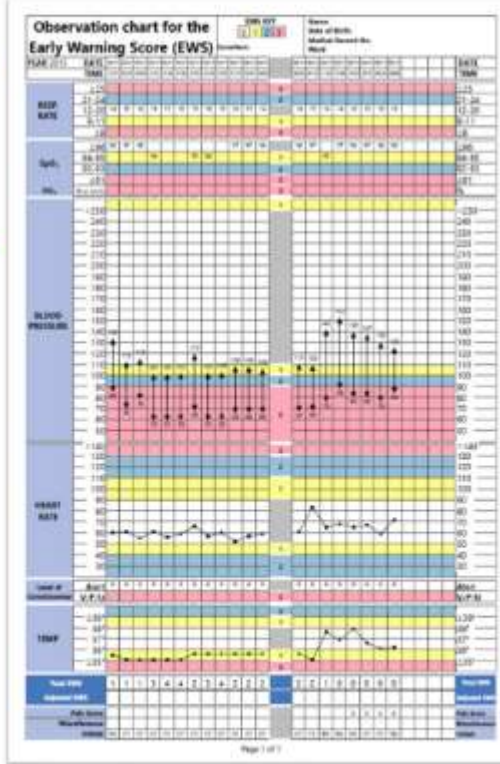
- If response is not carried out as above, nurse in charge must contact the RMO or Consultant.
- If you are concerned about a patient escalate regardless of score.
- Live output: if there are concerns about alive output (>E3 on Agite) contact RMO to review.
- where systolic blood pressure is a following, request doctor to review.

Observations captured and recorded at the bedside

NEWS calculated automatically and escalation protocol shown

All patients visible centrally at a glance, real-time updates to vital signs

Digital representation of observations chart



- Shorter Average Length-of-Stay
- Higher standard of care
- Releasing time to care
- Elimination of charting and scoring errors
- Escalation Alerts for Deteriorating Patients

Vital Signs Automation

- Public Sector Innovation Fund & Meath Foundation
- RFQ closed last week
- National Pilot Site
- Pilot Ward Osborne (Renal)
- 6 Month Pilot - Publish Results
- Deploying New Observation Monitors with tablets attached

Releasing Time to Care

- Nurse takes 7 minutes to measure and record NEWS observations.
- VSA makes 1.6 times faster, this means a saving of 2.6 minutes per observation.
- Nursing observations should be performed a minimum of 4 times daily *

Acute Medical Unit

- AMU nurses will perform a *minimum* of 120 sets of obs per day
- EVS could save 2209 minutes of nursing time per week/37 hours---the equivalent of 1 WTE

TUH

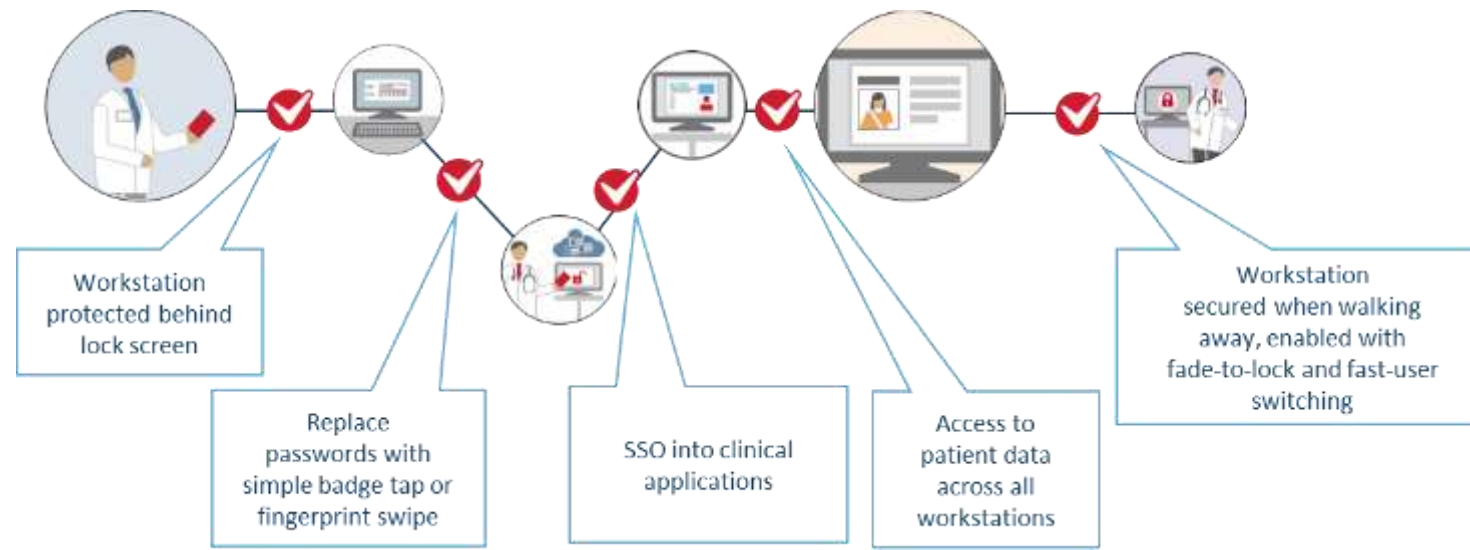
Based on adult inpatients the nursing time saved is 31,959 minutes per week/532 hours — the equivalent of 14 WTEs ! And this is based on a *minimum* of 4 NEWS scores per patient per day. It does not take into account patients on more frequent observations and continuous observations

* *National Deteriorating Patient Recognition & Response Improvement Programme*



Single Sign On

- Funded by Meath Foundation
- 4 Pilot departments:
 - Acute Medical Assessment Unit (AMAU)
 - Age Related Health Services (ARH)
 - Oncology Day Unit
 - Endocrinology Out Patients
- Staff accessing 17 different applications
Clinical, Nursing & Admin
- PCs & Thin Clients
- Integration with Active Directory
- Compatible with Staff ID Cards



Single Sign On

- Release Time to Care for Clinical, Nursing and HSCP staff
- Department specific reductions to date (**per staff per day**):
 - AMAU – 58 mins
 - Oncology - 46 mins
- Positive feedback from clinical staff, good user experience
 - *In Aria it saves 30 mins per day on putting passwords*
 - *Speeds up access to clinical data ... significant improves security*
 - *This initiative is getting me access to clinical data fast ... can also be about IG*
 - *It significantly improve security*
- TUH received “Clinical Excellence Award” for pilot at annual user conference
- TUH in conjunction with HSE is now establishing national Framework for Single Sign On by year end.
 - Phase 1 mini competitions will then commence



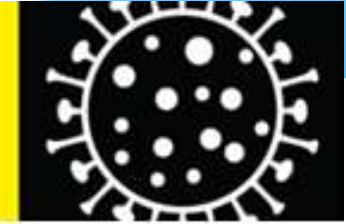
COPD Digital Solution

- Small Business Innovation Research – Jointly funded by Enterprise Ireland, TUH & HSE
- An incentivised solution aimed at empowering and improving the care of patients living in the community with COPD
- Approx. 110,000 people in Ireland have been diagnosed with COPD & approx. about 250,000 people living with the disease who have not yet been diagnosed!
- Using incentivisation and gamification, will empower patients to take ownership of their lifestyle and, in particular, improve their exercise capacity and QOL.
- Patients self-manage their condition and track their COPD Assessment Test (CAT) and BORG Breathlessness scores.
- Guide cue patients based on their CAT score, to let them know if they are having an exacerbation, if they are safe to exercise, or if they should exercise at a decreased intensity,
- Access to education component what to do when they get breathless, how to use their reliever inhaler, or how to clear their secretions from their chest.
- Phase 1 vendors selected and development due to commence



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Coronavirus COVID-19



Video Streaming Glasses - Redzinc & Digital Assistant – Amazon Echo Show

- Provide support to new/redeployed staff
- Reduce number of staff who had to interact with patients
- Reduce entry into wards/isolation rooms
- Support Patient Safety Walk arounds
- Reduce use of PPE
- Allow clinical staff to provide off site support (Beacon Renal Dialysis)

- 5 pairs of Redzinc VS Glasses deployed across ED, AMAU, ICU, Theatre, QSRM

- Hands free video communications system using 13 Amazon Echo Shows across Theatre, ICU, PACU

- Monitoring of Medical Devices in patient rooms streamed back to nurses station



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Artificial Intelligence



AI POC - Thrombectomy

Thank You!



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