Cover page	
Meeting	Trust Board Meeting
Paper Title	Transforming Care Institute Update
Date of meeting	Thursday 1 August 2019
Date paper was written	Monday 22 July 2019
Responsible Director	Paula Clark – Interim Chief Executive
Author	Louise Brennan – Acting KPO Lead

Executive Summary

This paper describes how the Transforming Care Production System (TCPS) continues to support the implementation of the organisational strategy, improving the experience of patients, their families and our staff.

This month's update, as requested by Trust Board is to provide assurance on:

- Kaizen Promotion Office (KPO) involvement in the improvement plan to address concerns highlighted in the CQC report
- Kaizen Promotion Office (KPO) structure and capacity
- Trust Value Streams Update and progress

Kaizen Promotion Office (KPO) involvement in the improvement plan to address concerns highlighted in the CQC report

SaTH Guiding Team (Executives/ Non Executives / Kaizen Promotion Office (KPO) Lead / Virginia Mason Institute (VMI) Executive Transformation Sensei) have adjusted their focus to ensure the alignment of SaTH's improvement methodology (TCPS) underpins all of the activity to resolve the 92 CQC 'should dos' and 'must dos'.

The SaTH Guiding Team agenda now includes, as a standard agenda item, to discuss and explore continuous improvement, to move out the Trust out of special measures, through Good to Outstanding.

The KPO Team continues to support the Improvement Steering Groups (ISG) and the Enablement and Engagement Group.

The TCPS methodology is being used to address root causes, and events have been held, or are being planned. The KPO Team have also been providing information and metrics to support the development of key performance indicators.

Kaizen Promotion Office (KPO) Structure and Capacity

This paper describes and explores the current KPO structure and capacity.

The KPO Lead position remains vacant and therefore has created a potential delay and risk to the progress of the TCPS spread in SaTH.

Trust Value Stream Update and progress

SaTH's Guiding Team are keen to align the organisational priorities and goals to the next value stream. The current value streams are being reviewed by the Value Stream Sponsor Teams, with a plan to transition VS#2 Sepsis, VS#3 Non-Medical Recruitment, VS#4 OPD Ophthalmology and VS#7 Radiology value streams back to the appropriate support groups.

Previously considered by	Sustainability Committee Meeting (July 2019)

The Board (Committee) is asked to:			
☐ Approve	☐ Receive	☑ Note	☐ Take Assurance
To formally receive and discuss a report and approve its recommendations or a particular course of action	To discuss, in depth, noting the implications for the Board or Trust without formally approving it	For the intelligence of the Board without in-depth discussion required	To assure the Board that effective systems of control are in place

Link to CQC domain:				
☐ Safe	☑ Effective	☐ Caring	☐ Responsive	☐ Well-led

Link to strategic objective(s)	*Select the strategic objective which this paper supports* ☑ PATIENT AND FAMILY Listening to and working with our patients and families to improve healthcare ☑ SAFEST AND KINDEST Our patients and staff will tell us they feel safe and received kind care ☑ HEALTHIEST HALF MILLION Working with our partners to promote 'Healthy Choices' for all our communities ☑ LEADERSHIP Innovative and Inspiration Leadership to deliver our ambitions ☑ OUR PEOPLE Creating a great place to work
Link to Board Assurance Framework risk(s)	

Equality Impact Assessment	◉ Stage 1 only (no negative impact identified) ○ Stage 2 recommended (negative impact identified and equality impact assessment attached for Board approval)
Freedom of Information Act (2000) status	◉ This document is for full publication ○ This document includes FOIA exempt information ○ This whole document is exempt under the FOIA
Financial assessment	*Is there a financial impact associated with the paper?*

Main Paper

Situation

Kaizen Promotion Office (KPO) involvement in the improvement plan to address concerns highlighted in the CQC report

The KPO Team continue to support the Trust's Quality Improvement Plans (QIP), and as the organisation continues to improve, there is a 'pull' for the KPO Team to provide bespoke training on topics within the TCPS methodology to support the actions within the QIP.

To facilitate this work:

- A member of the KPO Team is a core member of each CQC work stream
- TCPS methodology will underpin improvements of the 'must do' and 'should do' recommendations
- A Senior KPO Team member is a core member of both the CQC PMO and Engagement and Enablement Group.
- SaTH Guiding Team has reviewed priorities to support this work and 3 value streams will transition into operational management teams to create the KPO and GTM capacity to give the necessary focus.

The KPO Team plan to provide the PMO Team with bespoke training on elements of TCPS so that they are able to suggest and champion the methodology through the Improvement Steering Group (ISG) meetings. The KPO Team are also keen to support pre CQC inspection engagement.

Kaizen Promotion Office (KPO) Structure and Capacity

- KPO capacity will be challenged in the short term as our KPO Lead left the Trust at the end of March 2019. The recruitment process has not resulted in appointment to the position therefore the KPO Lead role remains vacant. The senior KPO Specialist continues to act up into the role whilst the job description and person specification is reviewed and the position is re-advertised
- Secondments within the KPO Team are going well.
- Following the successful recruitment of a KPO Specialist, they have now commenced in post. The KPO Specialist will undergo Advanced Lean Training in September 2019, with a plan to be fully accredited during the next 4-6 months.
- The new Trust Executives who have recently commenced in post within the Trust have now received their onboarding packs to support their TCPS journey.
- Over 4530 staff have now received 30 minutes or more of TCPS training.
- Over 1100 staff have now used the methodology to make improvements within the Trust.
- Over 50 participants will commence their 2019/20 Lean for Leaders training in July 2019.

Trust Value Stream Update and Progress

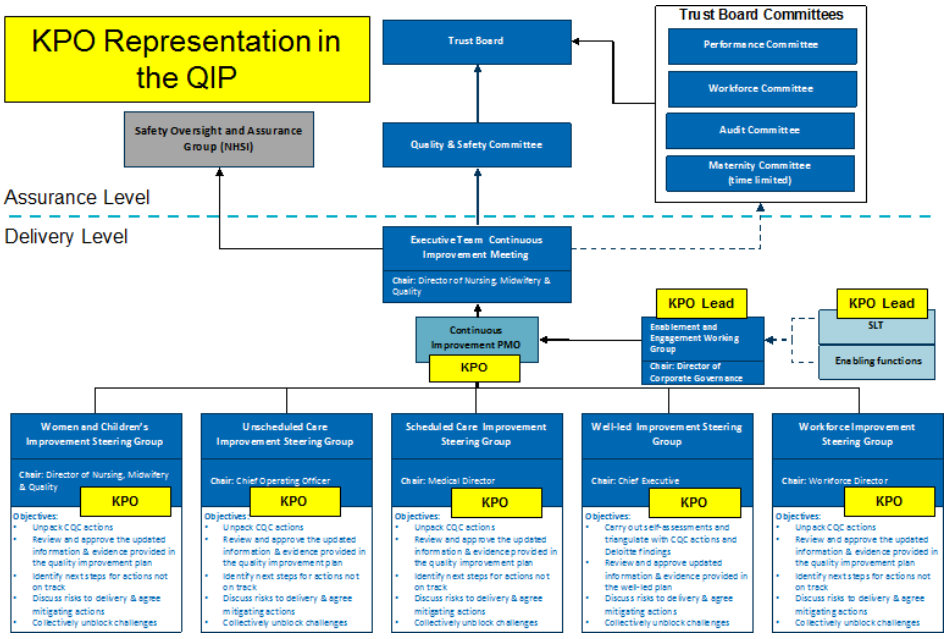
SaTH Guiding Team are keen to align the organisational priorities and goals to the next value stream. Current value streams are being reviewed by the Value Stream Sponsor Teams with a plan to transition VS#2 Sepsis, VS#3 Non-Medical Recruitment, VS#4 OPD Ophthalmology and VS#7 Radiology value streams back to the appropriate support groups.

Background

Kaizen Promotion Office (KPO) involvement in the improvement plan to address concerns highlighted in the CQC report

The KPO Team continues to support the delivery of actions linked to the CQC 'must do' and 'should do' actions.

The KPO Team attend the Improvement Steering Group (ISG) meetings, as well as the Engagement and Enablement Group.



A program of activity is starting to be developed by the ISG Groups, identifying how the TCPS methodology can support improvements across the Trust. To date, some of the activities have been completed and others are planned.

There are further opportunities for the KPO Team to support with future work and we have seen an interest to use the TCPS structure to develop a KPI to evidence sustainability.

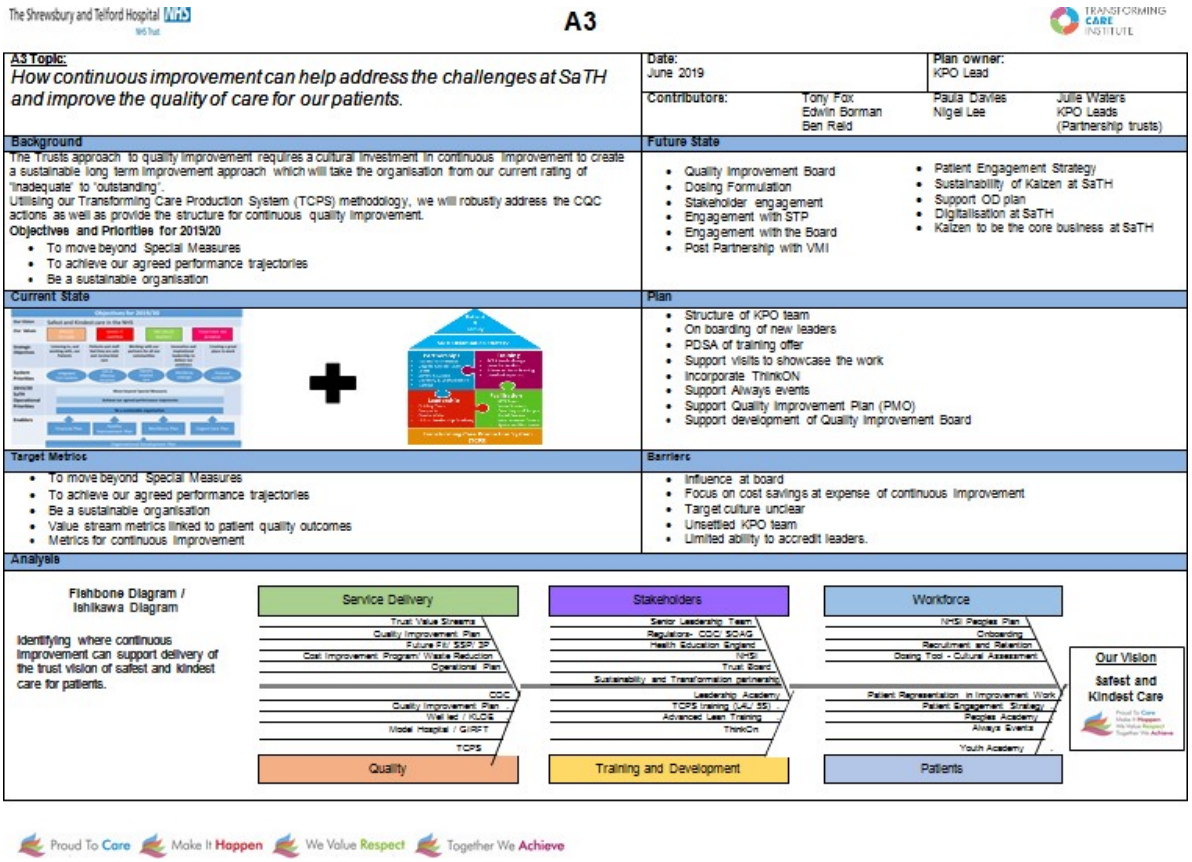
Improvement Steering Group	Use of TCPS/KPO Support
Women's and Children's	➢ KPO representation at ISG (Fortnightly) ➢ Standard QI/Peoplelink Boards (Completed) ➢ Process flow of the complaints process (TBC) ➢ Set up reduction with implementation of community midwife kit bags (completed) ➢ Standardised handovers (Completed) ➢ Standard work for leaders developed. (Completed)
Unscheduled Care	➢ KPO representation at ISG (Fortnightly) ➢ Refocus Value Stream Sponsor Development day to include QIP actions (14th June) ➢ Documentation Kaizen Event day (18th June) ➢ 5S session to support environmental improvements in ED (17th/18th June) ➢ Sepsis value stream work supporting KPI metrics to evidence roll out of sepsis boxes. (Ongoing)
Scheduled care	➢ KPO representation at ISG (Fortnightly) ➢ 5S event- End Of Life Equipment (Completed May 2019) ➢ Roll out of Sepsis Value Stream Work supported by Sepsis Nurse
Well Led	➢ KPO representation at ISG ➢ Innovation session to explore align the transformation cultural continuum with Key Lines of Enquiries. (TBC) ➢ Innovation session about standard work (TBC) ➢ Kaizen strategy event (TBC) ➢ Review of Patient Safety Value Stream work and develop

	roll out plan
Workforce	➢ KPO representation at ISG (Fortnightly) ➢ Kaizen event- on boarding (September 2019) ➢ Rapid Process Improvement Event- Medical Job Planning (October 2019) ➢ Roll out plan of the Recruitment Value Stream work
Enablement and Engagement	➢ KPO representation at ISG (Monthly) ➢ Peoplelink Board training sessions (Ongoing) ➢ Peoplelink report out video (available on intranet) ➢ Input to Improving together newsletter (monthly) ➢ Supporting the development of the SaTH Staff App ➢ Supporting Learning Disability Academy planning meetings

Kaizen Promotion Office (KPO) Structure and Capacity

The KPO Team is going through a period of change and despite the KPO Lead position remaining vacant, the KPO Team have continued to meet the demands and expectations of the organisation and remained focused on supporting quality improvements at SaTH.

The A3 (below) has been created by the KPO Team, in collaboration with key stakeholders, to identify our current and future state for TCPS. The A3 helps to guide the improvement work and identify possible associated risks. The next key piece of work is to align the improvement work with the organisational priorities, to evaluate stakeholder engagement and future proof the sustainability of TCPS at SaTH.



Assessment

Kaizen Promotion Office (KPO) Structure and Capacity

The partnership with Virginia Mason Institute is now in its fourth year.

The purpose of the partnership was to support the development of TCPS at SaTH. This included

setting up a KPO Team and coaching support to get SaTH to a position of being self-sustaining. To become self-sustaining would mean that as an organisation there are staff trained to deliver Advanced Lean Training (ALT) and able to assess and accredit staff through Rapid Process Improvement Weeks (RPIW).

Currently at SaTH there is only one member of staff (Senior KPO Specialist) that is part way through being able to deliver ALT and to assess/accredit. This would mean we are not yet at a place of self-sustaining and would require support and commitment from the organisation to continue the KPO development.

The KPO Lead position remains vacant meaning that the KPO Team is not up to full capacity.

The KPO Team are keen to support at pace the improvements required at SaTH but there is a risk that this may be delayed due to the unfilled position in the KPO Team.

July , 2019 [KPO TEAM DEVELOPMENT RECORD]

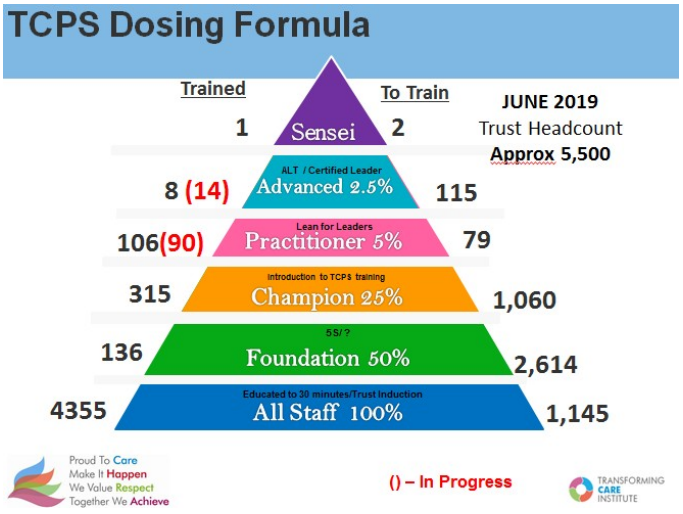
NAME	Role	ALT trained	ALT TEACH Part 1&2	SDD LEAD	VSST Supp ort	TL Accredited	WSL Accredited	Assessor for TL and WSL	L4L COACH	Teach L4L S1	Teach L4L S2	Teach L4L S3	Teach L4L S4	Teach L4L S 5	Teach L4L S6	L4L GEMBA	RPIW Away Team Member
VACANT POSISTION	KPO Lead																
Louise Brennan	Senior KPO Specialist	Y	Y- Part 1	Y	Y	Y	Y	Y - Team Lead only	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richard Stephens	KPO Specialist	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y VMI 2018
Marie Claire Wigley	KPO Specialist	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y VMI 2017
Rebekah Tudor	KPO Specialist (NEW)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y
Carla Webster	KPO Facilitator	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y VMI 2018
Rachel Hammer	KPO Administrator	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y
Yvonne Herbert	KPO Facilitator	N	N	N	N	N	N	N	Y	Y 1/2	N	N	N	N	N	N	Y
Paula Dabbs	Non KP- Head of OD	Y	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	Y
Paula Davies	Non KPO Head of Procurement	Y	N	N	Y	Y	Y	N	N	N	Y	N	N	N	N	N	N
Steve Jones	Non KPO- SSP	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Tony Fox	Medical KPO link-	Y	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
Alan Jackson	Non KPO- Biomedical Sciences	Y	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N

Key:

ALT- Advanced Lean Training
SDD- Sponsor Development Day
VSST- Value Stream Sponsor Team
TL- Team Lead
WSL- Workshop Lead
L4L- Lean for Leader
S1- Session 1,2,3,4,5,6
RPIW- Rapid Process Improvement Week/Workshop

	Not Completed
	In progress/ part completed
	Completed and assessed
	Not required
	Required to embed TCPS training without VMI support

The Cultutral TCPS Dosing Formula (below) identifies the number of staff required to be trained at certain levels in TCPS before it has an impact on the improvement culture at SaTH. The KPO Team is using this formula to revise TCPS training and create objective for the next 12 months.

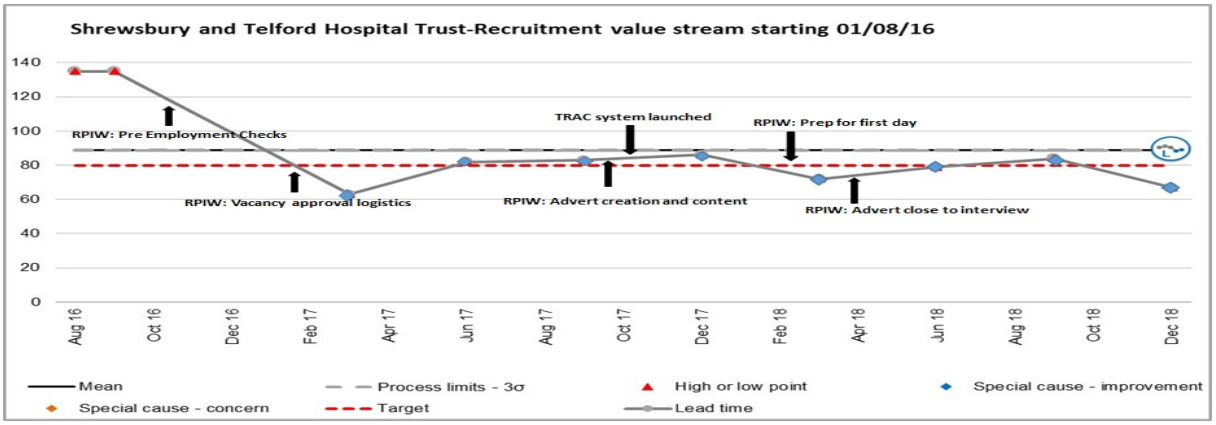


Trust Value Stream Update and Progress

The KPO Team continues to support the 7 current values streams, which are led by Executive Leads:

VS#2 (Sepsis) Executive Sponsor: Edwin Borman
The plan for the value stream is to develop a roll out plan ready for the value stream to be transitioned back to the care group with the support of the Sepsis Nurse Practitioner and Sepsis Champions.

VS#3 (Medical Recruitment) Executive Sponsor: Victoria Rankin
A Value Stream Development Day was held in February 2019, and a programme of improvement work focusing on Medical Recruitment has been made; a kaizen event is planned for September 2019.
The non-medical recruitment pathway has seen a sustained reduction in lead time as displayed in the SPC chart (below). The plan is to transition the non-medical pathway back to the Recruitment Team, and they will continue the improvements.



VS#4 (OPD Ophthalmology) Executive Sponsor: Tony Fox
The OPD Ophthalmology Value Stream has delivered key improvements on quality, safety and finance:

- Updated patient focused appointment letter
- Much improved patient experience at clinic with introduction of visual cards explaining clinic process.
- Cost saving due to ensuring zero defects for patients being taken to correct clinic by hospital transport
- Improved patient experience and cost saving by ensuring patients do not arrive for cancelled appointment with change to electronic process for sending letters
- Improved patient choice due to calling all patients when changing appointment

The plan for the value stream is to develop a roll out plan ready for the value stream to be transitioned back to the care group.

VS#5 (Patient Safety) Executive Sponsor: Barbara Beal (TBC)
The Patient Safety Value Stream has successfully implemented many improvements within Women and Children's:

- Safety huddle implemented with 100% compliance to standard work at 30 days
- 80% reduction in time (229mins to 90mins) following an incident to reporting an incident
- 5S achieved Level 3 for the environment of the antenatal office
- Production board implemented to support requirement for daily safety huddle
- 50% reduction in time to complete and submit a DATIX form from 8 mins to 4 mins using 5S
- Safety Huddle rolled out to Wrekin MLU and peripheral MLUs
- Development of process for use of ipad for completion of DATIX and review of DATIX in Safety Huddle

- 99% Reduction in lead time from incident reported to investigation completed
- 100% improvement in the number of incidents not investigated in the ward managers absence

The sponsor team are now reviewing membership and updating the kaizen plan to include roll out.

VS#6 (Emergency Department) Executive Sponsor: Sara Biffen
The Emergency Department Value Stream held a re-Launch Sponsor Development Day in June 2019 to process flow the pathway to identify improvements and bring together all quality improvement work within ED. This involved over 30 members of staff from both sites. The ED team identified the next key areas of improvement work, aligning it into the quality improvement plan.

VS#7 (Radiology) Executive Sponsor: Julia Clarke
The Radiology Value Stream has seen many improvements such as:

- 98% reduction in time taken to vet CT requests
- 100% reduction in defective CT cards
- 65% reduction in reporting CT scans
- 50% reduction in scans awaiting review and reporting over 7 days
- 62% reduction in time preparing patient for scan
- 60% reduction in time for CT scan report available and sent to referrer

The plan for the value stream is to develop a roll out plan ready for the value stream to be transitioned back to the care group.

VS#8 (Surgical Pathway) Executive Sponsor: Nigel Lee
It is noted that winter and elective surgery difficulties have impacted on the value stream metrics.

On the 2 May 2019 an event was arranged to share and showcase the improvement work. There are discussions within the sponsor team on how to get senior clinician engagement, in particular for the next RPIW which will focus on consent. There are other improvement teams currently within Scheduled Care e.g. FourEyes; the Care Group/KPO Team plan to map out who is doing what so it is clear and transparent.

[See Appendix 1: SaTH TGB report for current status **in information pack**].

As well as the 7 value streams, the KPO Team provide support to the Lung Cancer Pathway team who have created a value stream group to guide and support improvements to the patient pathway.

Recommendation

Trust Board are asked to note:

- SaTH Guiding team are keen to explore and develop the next Trust value streams to support the organisational priorities
- There is an opportunity for the TCPS work to be more incorporated into how SaTH address the CQC actions.
- The KPO Lead position remains vacant and the impact on the KPO Team structure, capacity and pace of the improvement work at SaTH.

NHS Partnership with Virginia Mason Institute

Transformation Guiding Board

June 2019

Report Out

The Shrewsbury and Telford Hospitals NHS Trust
Transforming Care Production System



Proud To Care
Make It Happen
We Value Respect
Together We Achieve

TRANSFORMING CARE INSTITUTE

SaTH Strategy

NHS Improvement

TRANSFORMING CARE INSTITUTE

SaTH Headlines

KEY ACHIEVEMENTS

Trust Board Development Session

- The KPO Team facilitated a 90 minute 'report out' style summary of improvement work that has been undertaken by SaTH staff using the Transforming Care Production System (TCPS) methodology
- The session ran in 3 parts giving an introduction to how 5S, Lean for Leaders and the Value Stream work has improved process for our patients and staff, and resulted in safer and kinder care.
- Over 30 members of staff 'reported out' their improvement work.

Trust Wide Improvements

A recent visit at SaTH by the *Care Quality Commission (CQC)* Head Inspector Professor Ted Baker and CQC Chair Peter Wyman gave SaTH staff a further opportunity to showcase their improvement work. They spent time during these visits on the genba with Lean for Leaders:

- Ward 6, Cardiac Ambulatory and Cardiac Unit with Janet Kay, Sarah Kirk and Donna Moxon
- HDU / ITU with Steph Young and Karen Sargeant
- Microbiology / Pathology with Alan Jackson – Head of Biomedical Science, Emma Bentley – Specialist Science Practitioner, Tracy Bennett – Specialist Science Practitioner and Lyndsey Green – Specialist Science Practitioner
- Blood Sciences with Tammy Davies – Biochemistry Manager, and Emma Tranter – Biochemistry Manager
- ITU with Jane Davies – ITU Ward Manager
- Radiology with Julia McAdam – Specialist Nurse (Lung Cancer)

During the visits they were able to see first-hand, the passion and enthusiasm of the next generation of leaders for continuous improvement and improvement methodology.

The CQC team reported back that they saw *'a drive and determination by the teams, but also an openness to change and improve'*.

Value Stream #1 – Respiratory Discharge

Reference	Improvement Action	Expected Outcome	March summary
1	Huddles	Daily for each team – consistent and reliable process	Corporate nursing continuing to support through and discussed at NMF
2	Production Boards	Owned by departments – used for huddle	Ongoing PDSA and promotion of production boards across all areas - Lean for leaders completed teaching to support the final few production boards
3	People link boards	Used for mini monthly report outs and Kaizen plan	People Link Board workshop held – also added to TCI Monthly 1 hour training programmes
4	Kaizen	5 S approach embedded	Nursing and therapy notes PDSA ward 10
5	Board round	Consistent and reliable process established	Ongoing and monitoring of the Standard work application
6	Ward round	Consistent and reliable process established	Ward round standard work ongoing support and monitoring and MFFD standard work roll out and audit of compliance
7	Internal discharge planning	Consistent and reliable process established	ECIST in reach support to merge the VS5 with 4 questions for all patients
8	Handover	Consistent and reliable process established	Report established to measure time of transfer to ward – PDSA in place to attend AMU huddle to pull patients –
9	Afternoon Huddles	Consistent and reliable process established	Displaying all pre 12 detail at ward level – PDSA at RSH for list to be sent post huddle to discharge lounge coordinator for early pull.
10	Patient Discharge	Consistent and reliable process established	Ward 6 and 11 Kaizen events for TTO's

Ward round standard work shared across all areas it was created following Value Stream 1 in the respiratory value stream and reflects the SHOP model seen in the SAFER programme

Metric (units of measurement)	Target	6	7	9	10	11	15	16	21	22r/27	24	28	32
% of Time Ward Round follow Standard Work model													
January (Base Line	0%	60%	0%	0%	60%	100%	100%	0%	0%	80%	20%	80%	100%
March		80%	0%	90%	100%	0%	100%	100%	100%	100%	80%	80%	0%

Wards that have achieved 100% means that the consultant sees patients in the following order:

- sick/unstable patients
- potential discharges if discharge will be delayed by following 'normal order'
- all remaining patients.

Supporting RPIWs/Kaizen Events for Value Stream 1

	Value Stream 1: Respiratory Discharge	Progress 30,60,90 + days	Plan for roll out (post 90 days)
RPIW #1: 07 Mar 2016	Front Door: Diagnosis of Respiratory Condition	Closed	Kaizen event on AMU held for further improvement outcome new policy re bed use
RPIW #2: 20 June 2016	Internal Discharge Planning.	Closed	Kaizen event for FFA requirements used to develop this work
RPIW #3: 10 Oct 2016	Ward Round	Closed	Linked to safer work
RPIW #4: 23 Jan 2017	Handover	Closed	Afternoon (4pm) board round huddle being spread as standard work
RPIW #5: 3 April 2017	Board Round	Closed	Being developed into standard work
RPIW #6: 25 Sept 2017	Patient discharge from Ward	Closed	Kaizen event on stroke ward used to spread approach
RPIW #7: 5 March 2018 (Care group led)	Criteria Led Discharge	Closed	PDSA commenced on additional wards
RPIW #8: Nov 2018	Complex Discharge	Closed	

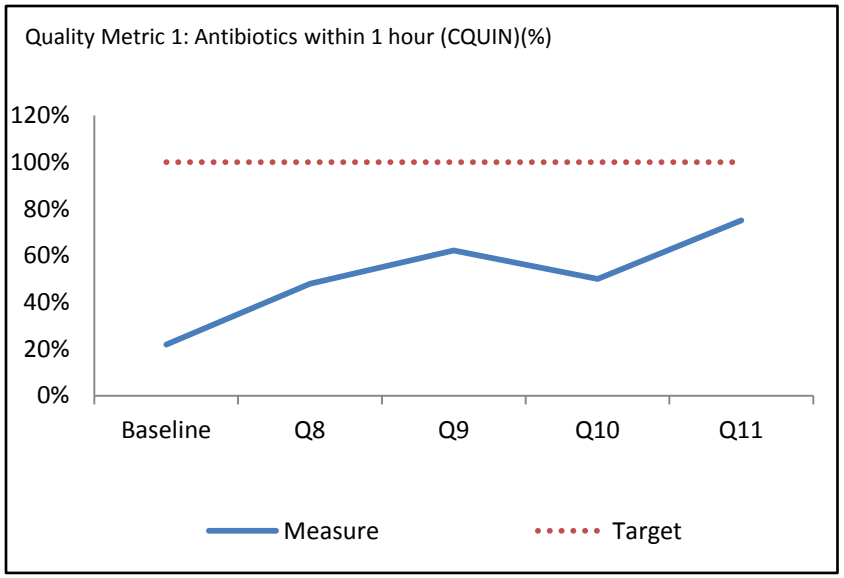
Major improvements/benefits: **Date of last update: June 2019**

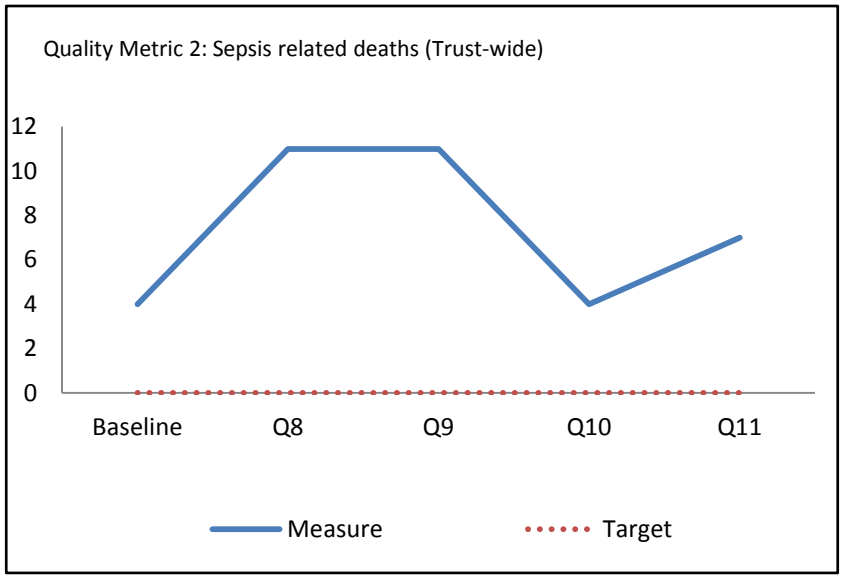
- **13 different quality improvement**s made and sustained to the respiratory discharge process
- **11** quality improvements implemented within Ward 9 (Respiratory, PRH), 10 quality improvements implemented within AMU, PRH. Focus now on AMU, PRH and Ward 27 at RSH
- **32 non value adding hours** removed from respiratory discharge process (per patient)
- **1357 clinical steps removed** from the respiratory discharge process (per patient)
- Implementation very much supported by Lean Leaders on 3 out of 4 genbas, including ward managers, matrons, respiratory Consultants
- **Average length of stay** reduced by **2 days (30% reduction) and 6% increase in spells**

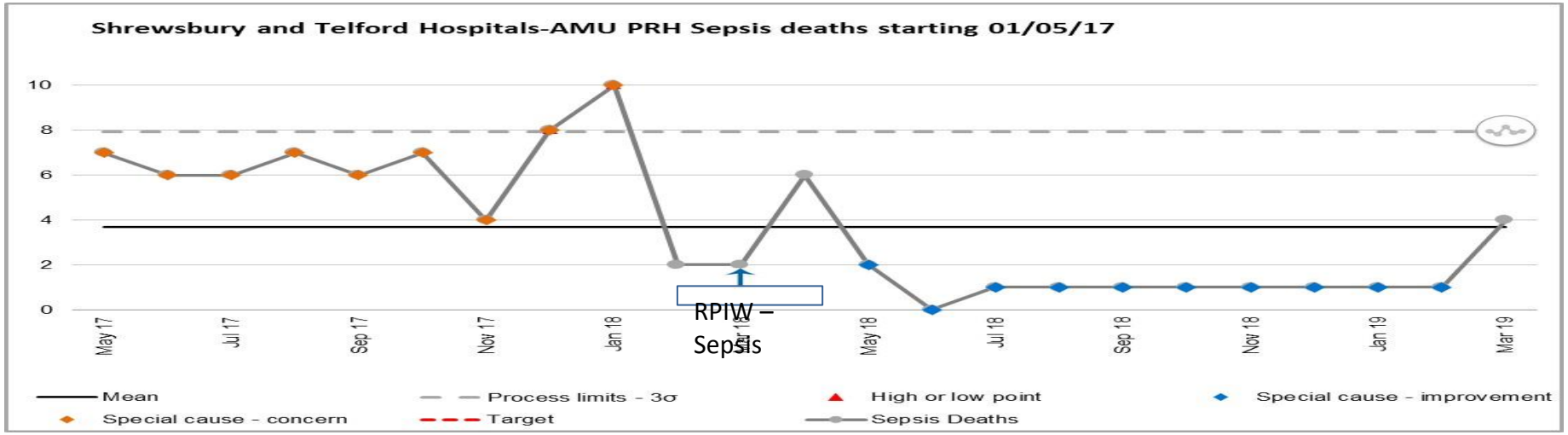
Value Stream #2 – Sepsis

Data metrics: June 2019

Exec sponsor: Edwin Borman







Value Stream #2 – Sepsis – A3

SEPSIS VALUE STREAM A3

Goal: Recognition and delivery of the complete Sepsis Bundle within 60 mins

Executive Sponsor:	**Edwin Borman**

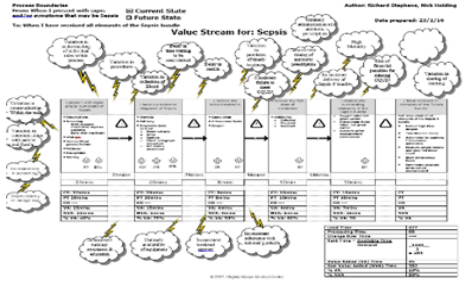
Sponsor Team:
Rebecca Hawkins (Antibiotic Pharmacist); Alan Jackson; Fiona Jutsum (Consultant Anaesthetist); Emma Salvoni (SAU RSH); Sam Hooper (Programme Manager); Hannah Pope (AMU RSH); Corrin Dorsett (ITU RSH); Louise Ingrouille-Grove (ITU RSH); Kofi Asante (Junior Doctor)

KPO Support:
Marie Claire Wigley

Aim Statement/Target Condition

Sepsis is a major cause of death for patients who need hospital care due to infection. However, with rapid diagnosis and treatment according to guidelines, mortality can be reduced dramatically.

100% of Patients in SATH should be screened for Sepsis appropriately and receive their full Sepsis Bundle within 60 minutes of recognition.



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
Recognition and Screening of Sepsis	Jo Banks	Viola Jones	25-29th April 2016
Delivery of Sepsis Bundle	Alan Jackson	Andrea Walton	8-12th August 2016
Inpatient Diagnosis of Sepsis	Clare Walsgrove	Wilf Cadelina	5-9 December 2016
Blood Sample Turnaround	Rebecca Hawkins	Karen Gibson / Lynette Eardley	8-12 May 2017
Sharing of Sepsis Learning	Edwin Borman	Hannah Adkins	19-23 March 2018

Value Stream Action Plan

Focus Area	Activity List activities in support of the focus areas	Target Completion Date	Completed
Some ward and department areas do not see regular Sepsis Cases	Simulation training for wards and departments who do not see regular Sepsis cases	August 2019	
Sepsis Nurse / Practitioner funding not agreed	Sepsis Nurse/Practitioner to be discussed at SLT regarding funding	12th March 2019	Completed – Sepsis Practitioner advertised, closing date 17/04/19
Assessment and Documentation tools have been introduced – ? being utilised	Kaizen event for use of assessment and documentation tool	September 2019	
Recommendation by the Guiding Team for the Value Stream to be transitioned	Prior to transition Sepsis Nurse/Practitioner and Sepsis working group to be in place.	Review September 2019	
There is no record on ESR of the staff who have been educated by the Critical Care Outreach team (CCOT)	Send CCOT database to Marie Claire for entry onto ESR	12th March 2019	Completed. All records of Sepsis training by CCOT have been added to ESR
VSST require assurance of the embedding of the Sepsis improvements across the Trust	Share genba walk dates and amended genba walk agenda with VSST	12th March 2019	Completed. Genba walk dates shared with VSST
All wards and departments require a Sepsis Champion	Publicise Sepsis Champions meetings and encourage involvement through genba walks	Ongoing	
PGD for administration of antibiotics is progressing through Pharmacy governance	Check for update on PGD	12th March 2019	Completed – PGD approved and ready for training
Nursing staff will require training to use the PGD	Plan for actions regarding PGD training plan once the CCO team support period has ended.	12th March 2019	Sepsis Practitioner to develop Training plan for PGD on appointment

Value Stream #2 – Sepsis – A3

Transforming Care Metrics	Source	Baseline	Target	2nd Quarter Aug – Oct 16	3rd Quarter Nov 16 – Jan 17	4th Quarter Feb – Apr 17	5th Quarter May – July 17	6th Quarter Aug – Oct 17	7th Quarter Nov 17 – Jan 18	8th Quarter Feb 18 – April 18	9th Quarter May 18 – July 18	10th Quarter Aug – Oct 2018	11th Quarter Nov-Jan 2019	% Change
Quality Metric 1: • Antibiotics in 1 hour (CQUIN)	CQUIN Audit	Q2 2015 21.9%	100%	31%	26%	5%	79%	67%	0%	48%	ED 65.8% Inpt 62.2%	ED 68.1% Inpt 50%	ED 57.9% Inpt 75%	ED 164% Inpt 242%
Quality Metric 2: • Sepsis related deaths (Trustwide)	Mortality trending data	Q3 2015 4 per month(median)	0	5 per month	5 per month	14 per month	22 per month	28 per month	19 per month	11 per month (median)	11 per month (median)	4 per month (mode)	7 per month (mode)	75% increase
Delivery Metric 1: • Lead Time (median)	KPO Team observations	Initial observations 427 mins	60 mins	372 mins	190 mins	190 mins	67 mins	67mins	67mins	240 mins	87 mins	111 mins	Awaiting data	83%
Delivery Metric 2: • Length of Stay	Informatics Team	Q3 2015 8.6 days	5 days	8.4 days	9 days	9 day	12 days	12 days	12 days	12 days	12 days	12 days	Awaiting data	30%
Morale Metric 1: • Staff Engagement Score	Annual Staff Survey	2015/16 3.7 (out of 5)	5 out of 5	3.7 (out of 5)	3.7 (out of 5)	3.7 (out of 5)	3.7 (out of 5)	3.8 (out of 5)	3.8 (out of 5)	3.8 (out of 5)	3.73 (out of 5)	3.73 (out of 5)	3.73 (out of 5)	1%
Morale Metric 2: • Staff Satisfaction ('I am satisfied with care I give' – those who agree)	Annual Staff Survey	2015/16 51%	100%	51%	51%	51%	71%	71%	71%	71%	71%	71%	71%	39%
Cost Metric 1: • Delivery of Care (Trustwide)	Finance	Q3 2015 £278,733	TBC	£433,629	£242, 764	£248,115	£230,398 (Feb & Mar only)	£806,766	£1,054,314	£1,719,886	£1,671,777	£1,525,00	£458,715	%
Cost Metric 2: • Average cost per case (Trustwide)	Finance	Q3 2015 £1,336	TBC	£1,412	£1,364	£1133	£1287 (Feb & Mar only)	£1222	£1387	£1579	£1620	£1525.50	£1598.00	5%

Value Stream Executive Sponsor Comments

What has gone well?

- Sepsis Boxes and Trolly are on each ward and department across both sites
- Ongoing monthly Sepsis Champions meetings at RSH and PRH to support the embedding of the Value Stream work
- Sepsis Booklet/ e-learning has been completed by nearly 1400 staff

What could have gone better/ Where do I need support?

- Sepsis Practitioner / Nurse role has not yet been agreed and recruited to
- Nursing staff will require training to use the PGD for antibiotics once it has been agreed through Pharmacy. The support from the Critical Care Outreach Team ends in February so there is currently no resource for training the nursing staff

What are my actions?

- Ensure the Moorhouse project work supports the value stream work
- Establish regular genba rounding to help the embedding of the Sepsis work, especially the use of Production Boards and People Link Boards to understand each areas performance in treatment of Sepsis
- Identify the next improvement event topic and scope.

Value Stream #2 – Sepsis Pathway

Highlight report Value Stream 2

- **Learning**
- Discussion with behaviour intelligence team (NHSI) helpful with approach to spread
  - RPIW held to bring all elements of the pathway together and support drawing this work in to a standard pathway
- **Link to strategy and goals**
  - Morale Metric 1 tracking staff engagement, supporting Trust OD work
  - Quality Metric 1 supporting wider Trust objective to achieve overall CQUIN
- **Key improvements on quality, safety and finance**
  - Sepsis Nurse Practitioner has now commenced in post
  - Creation of eLearning Workbook for all Trust staff. 1600 staff have now completed the workbook
  - Delivery of Sepsis Bundle in test areas down to 30mins
  - Roll out of Sepsis Trolley continuing across all Emergency access areas
  - Roll out of Sepsis Boxes across the Trust
  - Sepsis education programme delivered by the Critical Care Outreach Team to over 550 members of staff
- **Risks or challenges**
  - Operational ownership of Sepsis as a work programme
  - Fluctuating mortality figures due to small numbers and variance in measurements
  - Speed of spread required versus maintaining methodology

Supporting RPIWs/Kaizen Events for Value Stream 2

	Value Stream 2: **Sepsis**	Progress 30,60,90	Plan for roll out (post 90 days)
RPIW #1: 25 April 2016	Recognition and screening of Sepsis	Closed	Roll Out
RPIW #2: 08 Aug 2016	Delivery of Sepsis Bundle	Closed	Roll Out
RPIW #3: 5 Dec 2016	Inpatient Diagnosis of Sepsis	Closed	Roll Out
RPIW #4: 08 May 2017	Blood Sample Turnaround	Closed	Roll Out
RPIW #5: 19 March 2018	Developing guidance for Sepsis	Closed	Roll Out

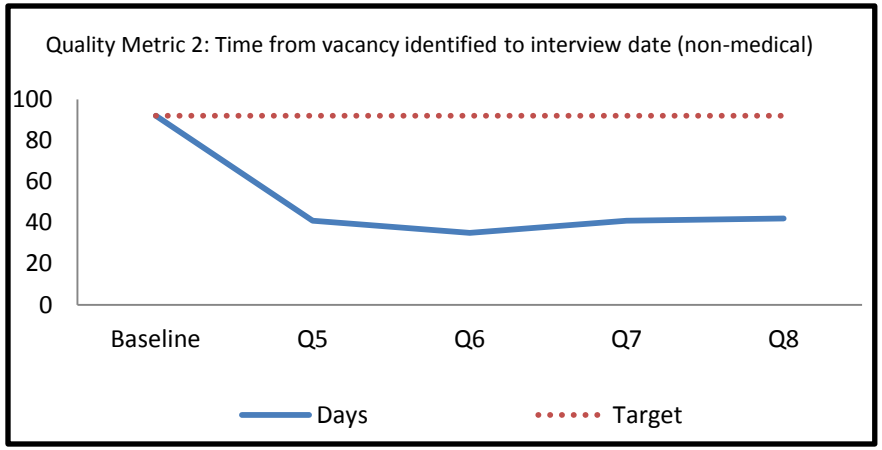
Major improvements/benefits: **Date of last update: June 2019**

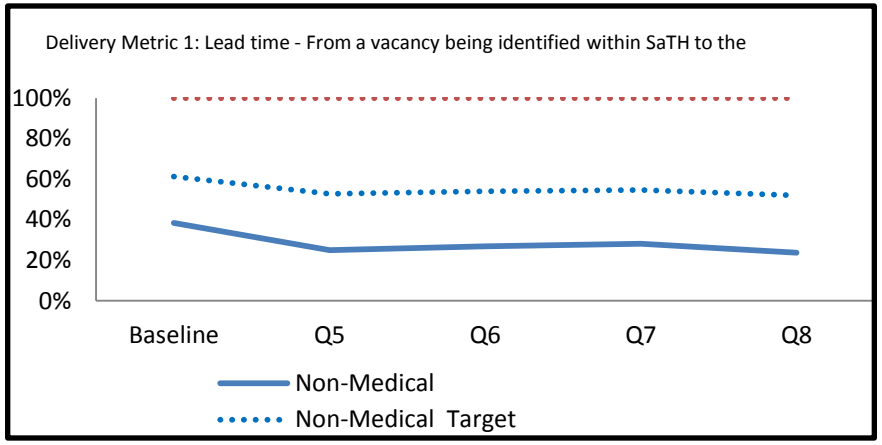
- 12 quality improvements made within the sepsis pathway including use of screening tools, Sepsis trolley, reduction in late observations and blood culture processing
- 11 ½ hours of non value adding time removed from screening for sepsis , diagnosis of sepsis and delivery of sepsis bundle pathway (single patient pathways)
- 968 steps no longer required to collect equipment and collect/deliver blood culture samples (single patient episodes)
- Sepsis Trolley rolled out to AMU, Emergency Departments at RSH and PRH
- Sepsis Box rolled out across the Trust
- Development of over 30 sepsis champions
- 100+ staff completed sepsis learning e-book
- Sepsis Specialist Nurse appointed and commenced in post

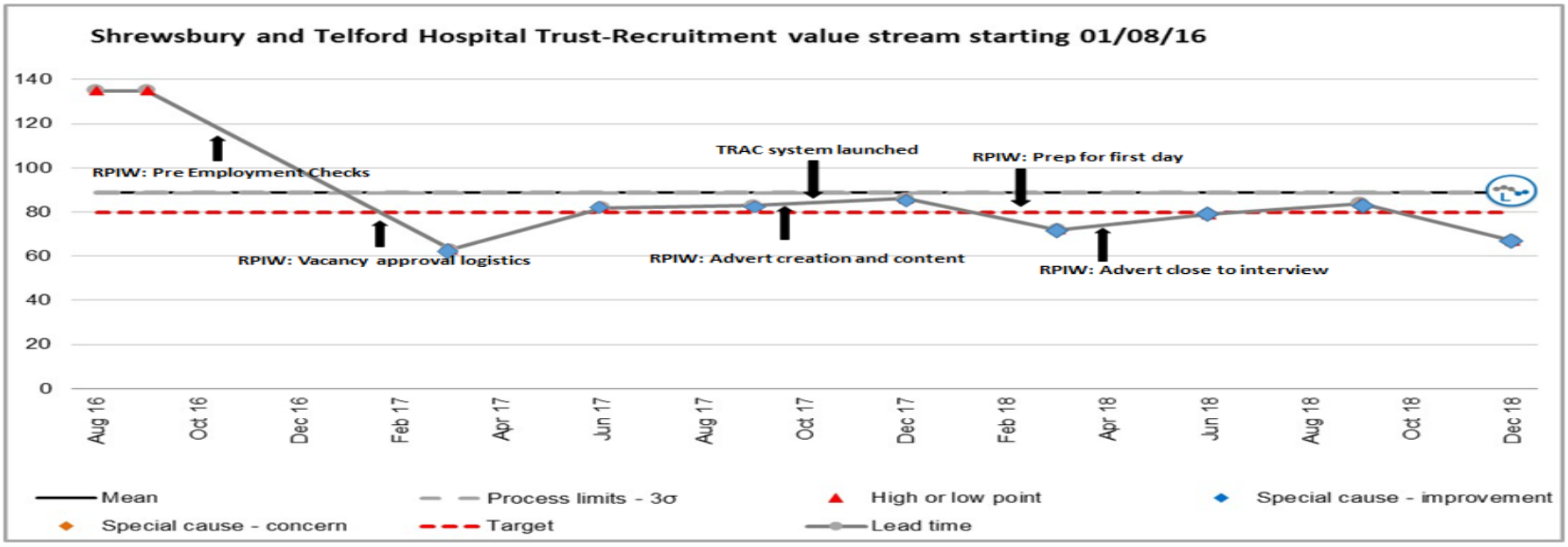
Value Stream #3 – Medical Recruitment

Data metrics: June 2019

Exec sponsor: Victoria Maher







Value Stream #3 – Medical Recruitment

Highlight report Value Stream 3

- Value Stream Development Day held in February 2019 and a programme of improvement work focusing on Medical Recruitment has been made; kaizen event planned for June 2019
- Reduction in lead time for non medical recruitment (**From** when a vacancy is advertised, To the applicant starts with the Trust) sustained at 67 days.
- Introduction of TRAC system, making progress transparent and aid data collection
- Opportunity to transition elements of the value stream to the recruitment team
- Development of metrics to support the planned improvement work for medical recruitment

Supporting RPIWs and Kaizen Events for Value Stream 3

	Value Stream 3: **Recruitment**	Progress 30,60,90	Plan for roll out
RPIW #1: 21 Nov 2016	Pre-Employment Checks	Closed	Roll Out
RPIW #2: 06 Feb 2017	Preparation and Logistics for Vacancy Approval	Closed	Roll Out
RPIW #3: 12 June 2017	Advert to Interview	Closed	Roll Out
RPIW #4: 2 Oct 2017	Contact with Candidate	Closed	Roll Out
RPIW #5: 29 Jan 2018	Departmental preparation for 1st day	Closed	Roll Out
RPIW #6: 23 April 2018	Advert to Interview	Closed	Roll Out
RPIW #7: 30 July 2018	Skill alignment	Closed	Roll Out
KE #1: 13-15 May 2019	Morning Medical Handover	Post KE	PDSA and testing phase post event

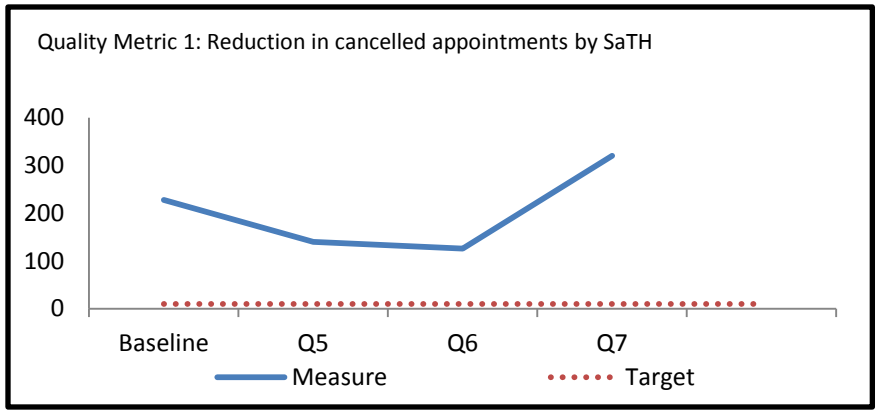
Major improvements/benefits: **Date of last update: June 2019**

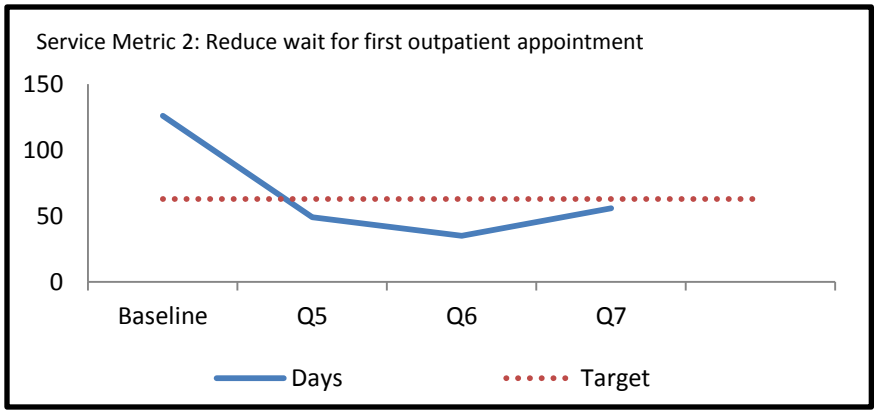
- Lead time (from vacancy identified to staff member's first day) reduced by 10 weeks from 135 days to 67 days
- Potential new staff aware of interview date at advert stage – 19 day improvement
- Lead time from close of advert to interview reduced by 15 days
- Kaizen event planned to explore new starter information- roll out of learning from previous work.

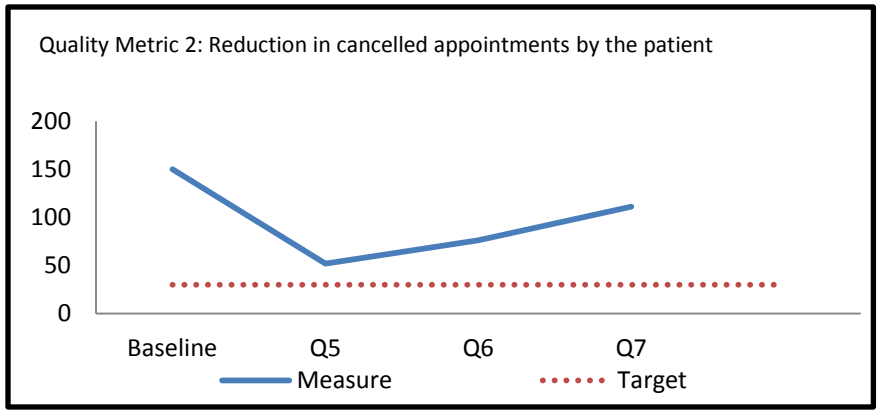
Value Stream #4 – Outpatient Ophthalmology

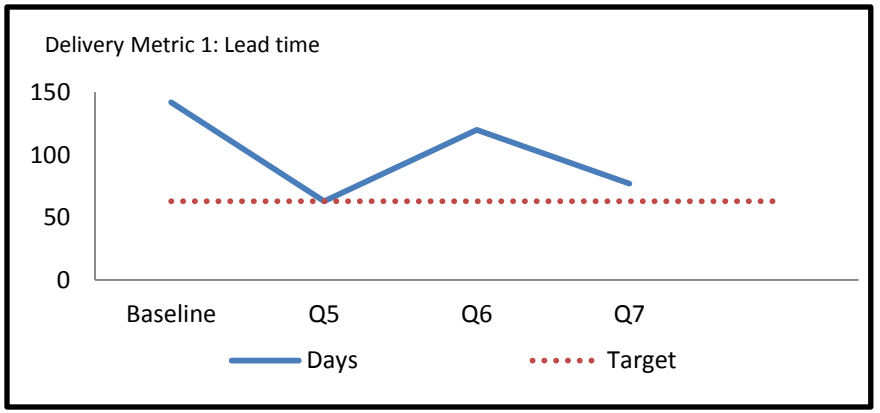
Data Metrics Updated: June 2019

Exec sponsor: Tony Fox









Value Stream #4 – OPD Ophthalmology – A3

OUTPATIENT CLINICS - OPHTHALMOLOGY VALUE STREAM A3

Goal: **To utilize the TCPS to improve the safety, productivity, efficiency and delivery of our Ophthalmology service and to roll out these improvements across all Outpatient activity, and improve our patients' care.**

Executive Sponsor:	Tony Fox

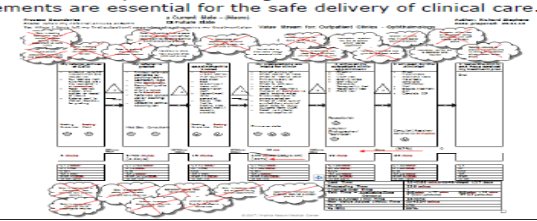
Sponsor Team:

Tony Fox (Executive Sponsor); Andy Elves; Ewan Craig; Andrew Scott; Julie Southcombe (patient representative); Clare Marsh; Coleen Smith; Simon Balderstone; Andrew Evans

KPO Support:
Richard Stephens

Aim Statement/Target Condition

Ophthalmology has been the subject of NHSI and NHSE commissioining risk reviews. All our patients have the right to access safe, effective and timely care. This can only be achieved by observation, understanding of our service and addressing those areas where improvements are essential for the safe delivery of clinical care.



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
RPIW #1 Patient Information - Letters	Andrena Weston	Ian Green	6 – 10 March 2017
RPIW #2 Patient Clinic flow and experience	Simon Balderstone	Debbie Allmark	12 – 16 June 2017
RPIW #3 Clinic Preparation	Andy Elves	Mel Watkiss	7 – 11 August 2017
RPIW #4 Grading of Ophthalmology referral	Andrew Scott	Lizzie Jones	6 – 10 November 2017
RPIW #5 Eye Injections in clinic	Andy Elves	Clare Marsh	5 – 9 February 2018
RPIW #6 Cancellation and re-booking of appointments	Andrena Weston/Julie Southcombe	Cath Tranter	4 – 8 June 2018
Kaizen event #1 Clinic flow	Julie Southcombe/Andrew Evans	Colleen Smith	5 – 7 December 2018

Value Stream Action Plan

Focus Area	**Activity** List activities in support of the focus areas.	Target Completion Date	Completed
Roll-out	• Agree action plan to ensure all key improvements are captured and opportunities to roll out • Produce A3 to capture key improvements	• End of February 2019	
Handover of Value stream to care group	• Prepare to handover value stream to care group on completion of Kaizen event 90 day re-measures • Invite Unscheduled Care members to join Sponsor team meeting to brief on process and successes to date following handover of Respiratory value stream	• End of March 2019	
Medical support to improvements following Kaizen event at RSH	• Tony Fox to meet with Ophthalmology Consultants to understand barriers to introduction of morning huddle	• End of February 2019	

Key Targets

Metric	Baseline	Target	Q6 (July-September 2018)	Q7 (Oct-Dec 2018)	Q8 (Jan - March 2019)
1. Reduce wait for first Outpatient appointment	126 days (18 weeks)	63 days (9 weeks)	35 days (5 weeks)	56 days (8 weeks)	42 days (6 weeks)
2. Lead Time: From when my referral arrives at SATh to when I have left my first appointment and received my treatment plan	142 days	63 days (9 weeks)	77 days (11 weeks)	91 days (13 weeks)	105 days (15 weeks)
3. Reduction in ASI (Appointment slot issues) numbers	145	0	1	5	1
4. Reduction in cancelled appointments by SATH	228	10	126	320	176
5. Reduction in agency spend	58k	£0	£0	£0	£68k

Value Stream #4 – OPD Ophthalmology – A3

Kaizen Plan

Month	RPIW – Topic	Link to value stream cycle box	Genba	Key improvements	L4L
January 2017	SDD				
March 2017	Patient information - letters	Cycle boxes 1, 2, 3, 4, 5	Booking office	• 5S applied to clinic letters resulting in reduction from 17 to 1 and improved patient feedback • Introduction of acknolwdgement letter reducing frist contact time from 56 days to 4 days ((93% improvement) • 100% improvement on booking staff knowledge of process with introduction of flow chart • 47% reduction in the number of times letters are delayed by changing timings of electronic transmission to "Syneretec"	Andrena Weston
June 2017	Patient Clinic Flow and Experience	Cycle boxes 5,6,7	Ophthalmology Outpatient clinic (MTX) PRH	• Introduction of patient pathway card to improve patient experience by 86%	
				• Introduction of sub waiting area placing patients closer to clinical staff following provision of eye drops: improved patient experience (100% improvement) • 67% reduction in lead time • 100% improvement to patients being taken to wrong clinic by hospital transport by providing access to SATH patient information system to transport staff	
August 2017	Clinic Preparation	Cycle boxe 4	Clinic preparation offices RSH	• Introduction of coordinator role to look for and escalate missing notes • Introduction of dedicated e-mail & telephone with dedication number has made significant improvement to interruptions • Introduction of kit box with all necessary items for "prepping" provided to temporary staff/hot desking significantly reducting set up time. • Introduction of numbering system for storage of notes resulting in reducing steps and time for staff	
November 2017	Grading of Ophthalmology outpatient referral	Cycle boxes 1,2	Booking centre & Medical Secretaries offices RSH	• Introduction of electronic grading with provision of smarcards reduced lead time by 71% • Change of "run time" sending paper referrals from booking centre to secretaries changed to 1230 • Changes to tracking system and report to mistake proof referrals over two weeks	
February 2018	Eye Injections in clinic	Cycle boxes 5,6,7	Ophthalmology outpatient clinic RSH	• Introduction of "One Stop Shop" for patients able to have injections on first appointment • Reduction in approximately 3.5 miles per week for Staff • Introduction of patient information to improve patient experience • Change of layout to clinic resulting in improved flow and reduced	
June 2018	Cancellation and re-booking of appointments	Cycle box 3	Booking office RSH	• 5S of leave request form • Introduction of standard work to process leave requests daily • Change of process for booking office to cancel clinics using scripts • Change process to call patients when making chages to appointmens	

Value Stream Executive Sponsor Comments

What has gone well?

- Engagement from all members of the Ophthalmology team during a very busy period of change, including major restructuring/moving of services cross-site.
- Support and engagement from Patients. The team has been supported by two visually impaired patients – Lin Stapley & Julie Southcombe. Julie has taken part in a RPIW, is a member of the sponsor team and acted as Sponsor for two events.
- Significant reduction in agency spend and ASIs
- Cost saving and improved patient experience/outcomes by ensuring zero defects for patients being taken to correct clinic by hospital transport
- Improved patient choice and experience by calling all patients when changing an appointment

What could have gone better/ Where do I need support?

- Widening scope to incule e-referrals managed by the CCG
- Transferring the work into daily operational business
- Sustaining the changes, particularly in clinics

What are my actions?

- Successful handover of value stream work to Care Group

Value Stream #4 – Outpatient Ophthalmology

Highlight report Value Stream 4

- **Learning about the value stream**
  - Inclusion of patients in the work proving highly effective.
- **Link to strategy and goals**
  - Cost Metric 1 reduction in agency spend, supporting Trust's financial work.
  - Delivery Metric 2 reduction in ASI (Appointment Slot Issues) supporting wider RTT
- **Key improvements on quality, safety and finance**
  - Updated patient focussed appointment letter
  - Much improved patient experience at clinic with introduction of visual cards explaining clinic process.
  - Cost saving due to ensuring zero defects for patients being taken to correct clinic by hospital transport
  - Improved patient experience and cost saving by ensuring patients do not arrive for cancelled appointment with change to electronic process for sending letters
  - Improved patient choice due to calling all patients when changing appointment
- **Risks or challenges**
  - Widening the scope to include e-referrals managed by the CCG
  - Transferring the work into daily operational business

Supporting RPIWs and Kaizen Events for Value Stream 4

	Value Stream 4:Outpatient Clinics	Measure 30,60,90 days	Plan for roll out
RPIW #1: 06 March 2017	Patient Information (Patient Letters)	Closed	Roll Out
RPIW #2: 12 June 2017	Patient Clinic Flow and Experience	Closed	Roll Out
RPIW #3: 7 August 2017	Clinical Preparation	Closed	Roll Out
RPIW #4: 6 Nov 2017	Grading of Outpatient referral	Closed	Roll Out
RPIW #5: 05 Feb 2018	Eye Injection	Closed	Roll Out
RPIW #6: June 2018	Cancellation and rebooking of OPD appointment	Closed	Roll out
Kaizen Event #1: Dec 2018	Clinic Flow	90-days	Roll Out

Major improvements/benefits:

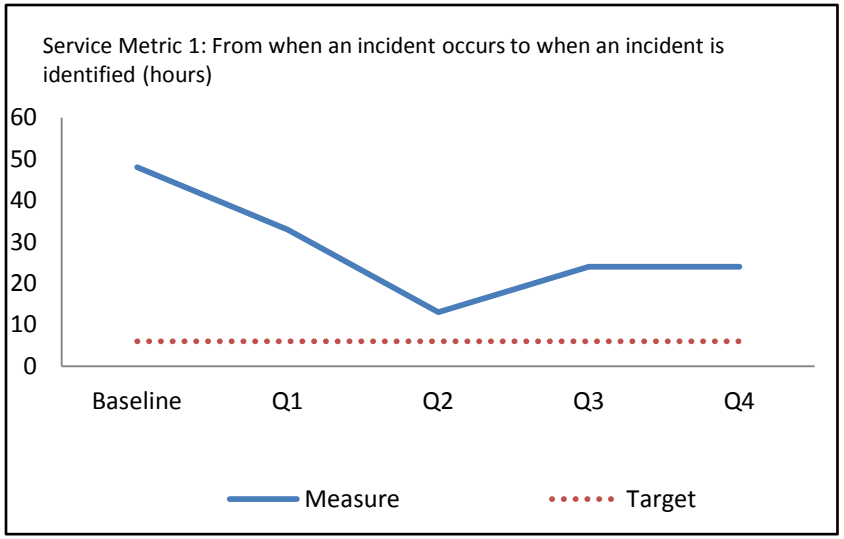
Date of last update: June 2019

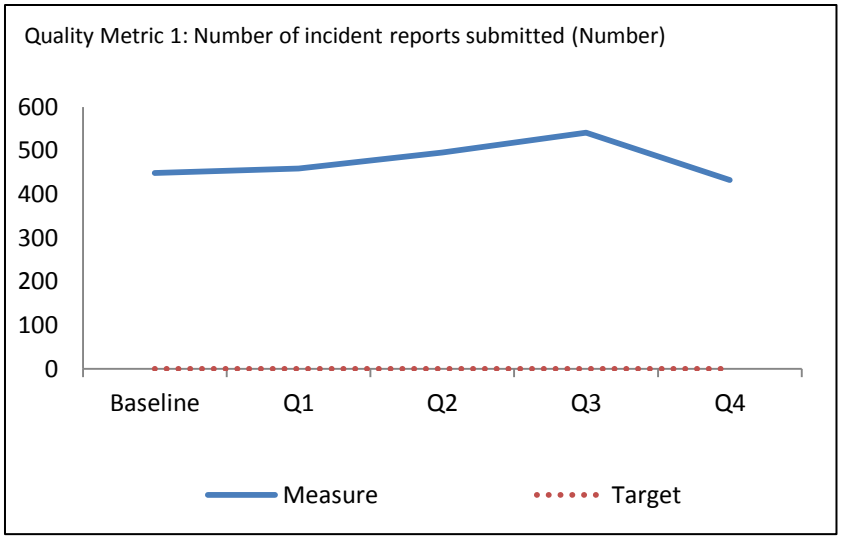
- 52 day reduction in the time from receipt of referral until first contact is made with patient
- 47% reduction in the number of times letters are delayed due to requesting a letter after the deadline for electronic transfer to next process
- 100% reduction in the number of Booking staff unaware of overall process for sending patient letters (Process = from referral arriving at SATH, to patient arriving in clinic)
- Staff training to assist patients who need guiding planned. Video created.
- 5S applied to Ophthalmology clinic letters resulting in reduction from 17 letters to 1 letter
- 32% reduction in lead time to prepare patient notes for a clinic
- 93% reduction in lead time with introduction of electronic grading
- 67% reduction in lead time at outpatients clinic
- 3.5 miles per week reduction in staff walking during an outpatient appointment

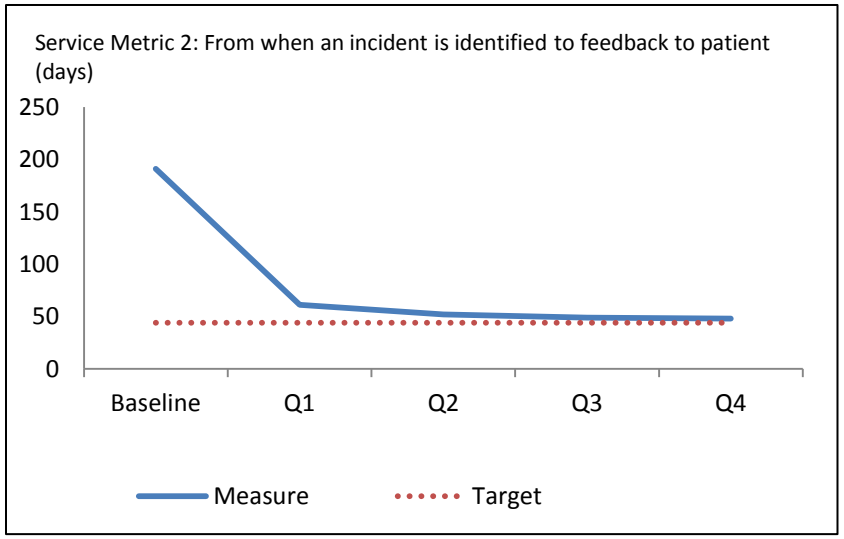
Value Stream #5 – Patient Safety

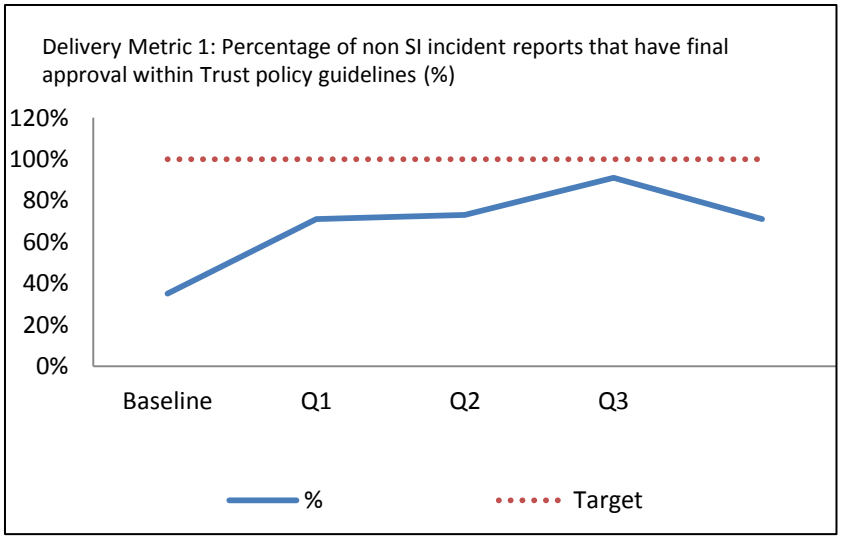
Data Metrics: June 2019

Exec sponsor: TBC









Value Stream #5 – Patient Safety – A3

Transforming Care Metrics	Source	Baseline	Target	1st Quarter (Jan – Mar 18)	2nd Quarter (Apr –Jun 18)	3rd Quarter (Jul – Sept 18)	4th Quarter (Oct – Dec 18)	% Change
Service Metric 1A: • From when an Incident occurs to when an incident is identified (I know) All incidents Service Metric 1B: • From when an incident is identified (I know) to feedback to patient (I know the outcome)	Datix and direct observation	48 hours 191 days	6 hours 44 days	33 hours 61 days	13 hours 52 days	24 hours 49 days	24 hours 48 days	73% 72%
Service Metric 2: • Time from Datix status 'Being reviewed' to 'Final approval'	Datix and direct observation	131 days	28 days	22 days	20 days	1 day	1 day	85%
Quality Metric 1: • Number of overdue incident reports at 'Awaiting review' stage 'Being reviewed' 'Awaiting approval'	Datix	Awaiting review 140 Being reviewed 35 Awaiting approval 71 Total 246	0 0 0 0	Awaiting review 51 Being reviewed 73 Awaiting approval 10 Total 134	Awaiting review 74 Being reviewed 51 Awaiting approval 3 Total 128	Awaiting review 7 Being reviewed 32 Awaiting approval 2 Total 41	Awaiting review 43 Being reviewed 65 Awaiting approval 0 Total 108	Awaiting review 69% decrease Being reviewed 85% increase Awaiting approval 100% decrease Total: 56%
Quality Metric 2: • Number of incident reports submitted	Datix / NRLS data	Quarter one 449 (2017/2018)	Top 25% of reporting Trusts	459	496	541	433	3% decrease
Delivery Metric 1:	Datix	35% of incidents in the system have had final approval within	100%	71%	73%	91%	71%	102% increase
• Percentage of non SI Incident reports that have final approval within Trust policy guidelines		Trust policy guidelines (14/9/17)						
Delivery Metric 2A: • Number of staff trained to use Datix in last 12 months - cumulative (W&C)	Corporate education induction records	21 % 160/737		8% 60/737	67/737	59/737	61/737	61% decrease
Morale Metric 1: • Staff member feedback on Datix as a % on eligible incidents	Datix	Where feedback requested = 25.69% 46/179 incidents All eligible incidents = 13.25% 53/400 incidents	100%	Where feedback requested = 16% 18/113 incidents All eligible incidents = 8% 37/459 incidents	Where feedback requested = 27% 58/211 incidents All eligible incidents = 12% 59/496 incidents	Where feedback requested = 80% 190/236 incidents All eligible incidents = 49% 266/541 incidents	Where feedback requested = 85% 138/162 incidents All eligible incidents = 48% 207/433 incidents	Where feedback requested = 226% increase All eligible incidents= 269% increase
Morale Metric 2: • Staff confidence and security in reporting unsafe clinical practice	Staff Survey	3.71/5 scale summary score	5/5	3.67/5 scale summary score	3.67/5 scale summary score	3.67/5 scale summary score	3.67/5 scale summary score	1%
Cost Metric 1: • Cost per incident for staff to report incident with Datix	Finance	£2.36 per datix report	25% reduction (£1.77 per datix report)	£1.77 per Datix report	£1.77 per Datix report	£1.77 per Datix report	£1.77 per Datix report	25%
Cost Metric 2: • Cost per incident for staff to Investigate report	Finance	£245.91 per incident	25% reduction (£184.43 per incident)	£245.91 per incident	£245.91 per incident	£245.91 per incident	£245.91 per incident	0%

Value Stream Executive Sponsor Comments

What has gone well?

- Womens and Childrens Areas have continued to use and embrace the Patient Safety Huddle process
- The remeasures from the Kaizen event show that an improvement in the time for investigation of incidents on the Neonatal unit

What could have gone better/ Where do I need support?

- Genba walks to understand the Patient Safety work within the Womens and Childrens areas
- A clear vision from the Sponsor team of the direction of the next events
- Engagement of the Patient Safety team to support the ongoing development of the Value Stream

What are my actions?

- Regular Genba walks to support the ongoing Patient Safety Value Stream work
- Align the CQC / Moorhouse work with the Value Stream

Value Stream #5 – Patient Safety – A3

Patient Safety VALUE STREAM A3

Goal:

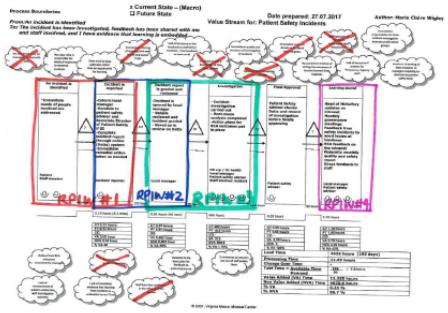
Executive Sponsor:	**Deidre Fowler**

Sponsor Team: Adam Gornall; Joy Oxenham; Julia Palmer; Sarah Jamieson; Marie-Claire Wigley (KPO Specialist); Gary Caton; Peter Jeffries; Robin Long; Brenda Maxton; Emma Dodson; Steph Young

KPO Support:
Marie Claire Wigley

Aim Statement/Target Condition

Reporting incidents and sharing the learning in a timely manner is vital for every type of incident, every time. The learning and rapid sharing of learning from incidents



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
RPIW#1 Rapid Sharing of Information	Sarah Jamieson	Claire Murgatroyd	4-8 Dec 2017
RPIW#2 Reporting of incident via Datix system	Laura Kavanagh	Lucy Murcott	26 Feb-2 March 2018
RPIW#3 Investigation of low/no harm incidents	Julia Palmer	Lesley Stokes	21 -25 May 2018
RPIW#4 Sharing of learning from high risk incidents	Joy Oxenham / Liz Pearson	Jill Whitaker / Lorna Gunstone	23-27 July 2018
Kaizen event #1 Sharing of learning from low/no-harm incidents with Parents/Carers	Emma Dodson	Shirley Teece	12-14 October 2018

Kaizen Plan

Month	RPIW – Topic and Date	Link to value stream cycle box	Genba	Sponsor	Process Owner	L4L
June 2019	**The Serious incident process**	Cycle Box 4	TBC	TBC	TBC	TBC
May 2019	Stop the Line Process – Kaizen event to explore the actions taken in Stop the Line Process	Cycle box 1	TBC	TBC	TBC	TBC

Value Stream Action Plan

Focus Area	Activity List activities in support of the focus areas.	Target Completion Date	Completed
Patient Safety Value Stream that has been carried out in the Womens and Childrens Centre and needs to be shared more widely	Identify date for Patient Safety Forum where Value Stream outcomes can be shared as part of Agenda	End Feb 2019	
Understand how the Patient Safety Value Stream has been developed at Coventry and Warwick hospitals	Visit Coventry and Warwick Hospitals Patient Safety Team	End April 2019	
Develop a Target Progress Report to monitor the share and spread of the outcomes of the Value stream	Develop Target Progress Report Gather information to monitor share and spread	May 2019	

Supporting RPIWs and Kaizen Events for Value Stream 5

	Value Stream 5: Patient Safety	Measure 30,60,90 days	Plan for roll out
RPIW #1: 02 Dec 2017	Sharing of Information	120 days	Roll Out of safety huddle to MLUs and community
RPIW #2: 26 Feb 2018	Completion of DATIX	120-days	Roll out
RPIW #3: June 2018	Investigation of low/no harm incidents	90-days	Roll out
RPIW #4: July 2018	Sharing of learning from high risk incidents	90-days	Roll out
RPIW #5: October 2018	Patient / Family Feedback	90-days	Roll out
Kaizen Event #1: Nov 18	Sharing of learning with patients and families	90-days	Roll out

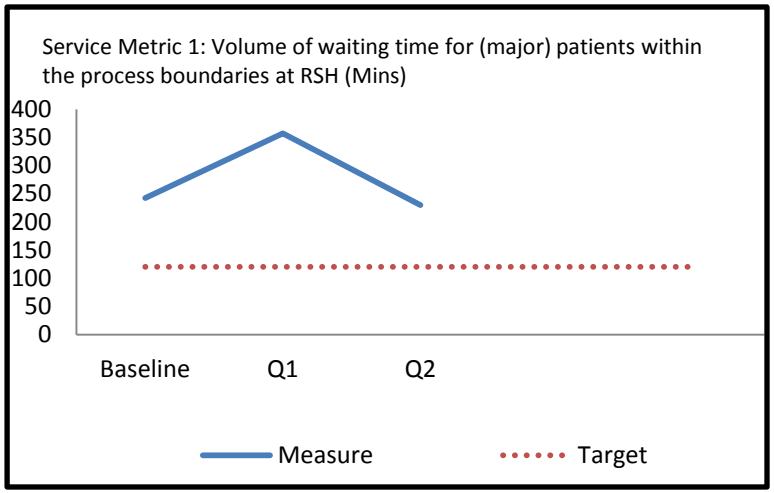
Major improvements/benefits: **Date of last update: May 2019**

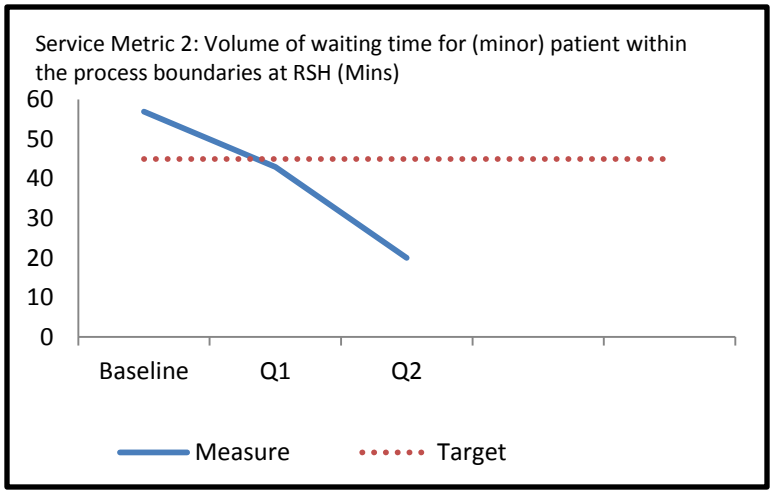
- Safety huddle implemented with 100% compliance to standard work at 30 days
- 80% reduction in time (229mins to 90mins) following an incident to reporting an incident
- 5S achieved Level 3 for the environment of the antenatal office
- Production board implemented to support requirement for daily safety huddle
- 50% reduction in time to complete and submit a DATIX form from 8 mins to 4 mins using 5S
- Safety Huddle rolled out to Wrekin MLU and peripheral MLUs
- Development of process for use of ipad for completion of DATIX and review of DATIX in Safety Huddle
- 99% Reduction in lead time from incident reported to investigation completed
- 100% improvement in the number of incidents not investigated in the ward managers absence

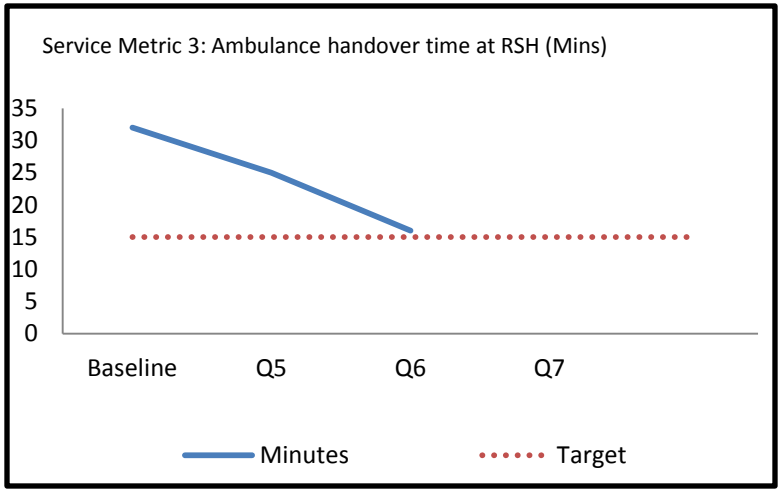
Value Stream #6 – Emergency Department

Data Metrics: June 2019

Exec sponsor: Sara Biffen







Value Stream #6 – Emergency Department – A3

EMERGENCY DEPARTMENT VALUE STREAM A3

Goal: To improve the performance against the national Emergency Department (ED) 4hour target and to continuously improve the ED processes to benefit patients.

Executive Sponsor:	Sara Biffen

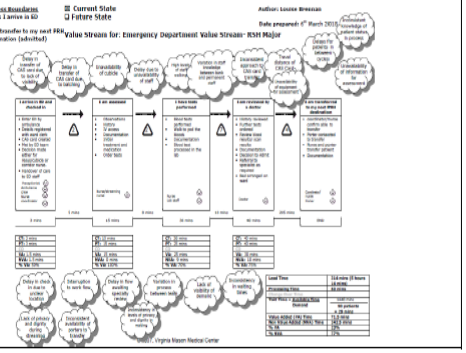
Sponsor Team:

Sara Biffen (Executive Sponsor); Rebecca Houlston; Carol McInnes; Jan McCloud; Kumaran Subramanian; Vanessa Roberts;
Jon Lacy-Colson; Karen Thompson; Ed Rysdale; Lucy Roberts

KPO Support:
Louise Brennan

Aim Statement/Target Condition

NHS England have set the standard that all patients presenting to ED should be seen and discharged within 4 hours, or if admitted transferred to a ward within four hours of the decision to admit.



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
RPIW #1 Specialty Review RSH	Rebecca Houlston	Clare Emery	30th April- 4th May 2018
RPIW #2 Front Door Streaming PRH	Vanessa Roberts	Angie Boulds	9th-13th July2018
RPIW #3 Documentation RSH	Jan Mccloud	Lisa Mathews	24-28th September 2018
RPIW #4 Transfer to X-ray PRH	Sara Biffen	Jan Mccloud	15-19th October 2018
RPIW #5 Flow of Minors RSH	Ed Rysdale	Kim Humphreys	10-14th December 2018

Kaizen Plan

Month	RPIW – Topic and Date	Link to value stream cycle box	Genba	Sponsor	Process Owner	L4L
March 2018	SDD					
April 2018	Specialty referral of ED patient 30th April- 4th May	Cycle box 4	ED RSH	Rebecca Houlston	Clare Emery	
May 2018						
June 2018						
July 2018	Front Door Streaming/ Ambulance Hand Over 9th July- 13th July	Cycle box 1	ED PRH	Vanessa Roberts	Angie Boulds	
August 2018						
September 2018	Topic: Documentation 24th-28th September	All cycle boxes	Genba: RSH ED	Sponsor: Jan Mccloud	Process Owner: Lisa Matthews	Jan Mccloud
October 2018	Topic: Radiology Requests 15-19th October	Cycle box 3-4	Genba: PRH ED and Radiology	Sponsor: Jon Lacy Colson	Process Owner: Jan Mccloud	Lara Wynn Jan Mccloud
November 2018						
December 2018	Minors Pathway RSH 10-14th December	Minors Value Stream map	Genba: RSH Minors	Sponsor: Ed Rysdale	Process Owner: Kim Humphries (PO), Julie Talbot (Co-PO)	
May 2019	Topic: CDU		Genba: PRH ED	Sponsor: Carol McInnes	Process Owner: Rebecca Race	

Value Stream #6 – Emergency Department – A3

Value Stream Action Plan

Focus Area	Activity List activities in support of the focus areas.	Target Completion Date	Completed
Update and revise value stream boundaries	• Discuss boundaries at Value stream sponsor team meeting • Agree revised boundaries at Guiding Team Meeting (GTM) • Update VSM and display within genba and accountability wall	• Thursday 10th January 2019 • Thursday 17th January 2019 • Thursday 17th January 2019	Completed
Production Board and Peoplelink training session for ED staff	• Review KPO capacity to provide 1 hour training sessions. • Discuss at next ED VSST regular genba walks within each ED • Liaise with managers to identify staff to attend training	• End February 2019	
Create a staff engagement metric that can be measured in real time	• VSST members to develop metric with staff in ED. • To collect during team meeting.	11th February 2019	
Roll out of RPIW kaizen work to opposite site	• Test of new documentation, PDSA and then roll out. • Share new X-ray request card with ED team at huddle • PO and Sponsor for RPIW #5 to roll out improvements to PRH site	• Week commencing 4th March 2019	
Metric A. Volume of waiting time for patients within the process boundaries.	• Raise profile of specialty review SOP within medical meetings • PDSA the SOP and display within the genba • ED improvement event exploring the use of the whiteboard. • Recruitment of ED staff to support early assessment	• Action completed • Action completed • Monday 14th January 2019- completed • Ongoing	
Metric B. Lead Time arrival to transfer to next destination	• Increase in lead time at PRH site prompted the review of the process boundaries to understand where the constraint is within the process. • Share learning's with the standard work value stream to highlight and support flow issues.	• Thursday 24th January 2019 • Mid February 2019	
Metric C. Arrival to DTA	• The value stream map boundaries are to be adjusted to end point of DTA to focus the improvement work. • To continue to measure transfer to next destination time • Reduction in metrics between Q1 and Q2 demonstrating removal of waste in the process. • Demonstrated further value stream improvement events required to meet target.	• End March 2019 • Next RPIW May 2019	
Metric D. Ambulance hand over time	• Reduction in handover times for both sites. • VSST aware that Pit stop process not consistently used. To review and explore who could champion the work to ensure the process is used. • VSST Executive sponsor to investigate how a reduction in handover time has impacted corridor hand over fines • Kaizen event to review ambulance handovers- pit stop and CDU at RSH	• End January 2019 • Thursday 24th January 2019	
Metric E Minors pathway Lead Time	• Roll out minors pathway learning from RPIW #5 to PRH site • Continue remeasures for next 60 days • Present metrics on peoplelink board	• Week commencing 4th March 2019	

Targets

Metric	Baseline	Target	Q1 (July-September 2018)	Q2 (Oct-Dec 2018)
A. Volume of waiting time for patients within the process boundaries. 1. RSH 2. PRH	1. 242.5 minutes 2. 320 minutes	120 mins	1. 357 mins 2. 297 mins	1. 230 mins 2. 529 mins
B. Lead Time arrival to transfer to next destination 1. RSH 2. PRH	1. 314minutes (5hrs 14 minutes) 2. 383 minutes (6hrs 23 minutes)	3 hours 59 mins	1. 404 mins (6 hours 44 mins) 2. 323 mins (5 hours 23min)	1. 360 mins (6 hours) 2. 619mins (10hrs 19 mis)
C. Arrival to DTA 1. RSH 2. PRH	1. 180mins (3 hrs) 2. 170 mins (2hrs 50 mins)	120 mins	1. 280 mins (4 hours 40 mins) 2. 235min (3hrs 55 mins)	1. 170 mins (2hours 50 mins) 2. 176 mins (2 hrs 56 mins)
D. Ambulance hand over time 1. RSH 2. PRH	1. 35 minutes 2. 32 mins	15 mins	1. 20 mins 2. 25 mins	1. 2.16 mins
E. Minors Pathway Lead Time RSH **From: I am triaged in ED reception** **To: I leave ED minors**	78 mins	60 mins	N/A	21 mins (30 day remeasures)

Value Stream Executive Sponsor Comments

What has gone well?

- Engagement from ED team to roll out the improvements from RPIW 5
- ED staff at RSH feeling empowered to make inprovements and mistake proof situations- Louise Rigby has done some improvement wok in ED to the Paed resus area to make it safer during a resus for both adult and Paed patients. Louise came in on her day off to make the changes. The plan is also to roll out the work to the PRH site. Louise and Kim Humphries came along to the staff kaizen huddle today (Friday 25th Jan) and shared the work.

What could have gone better/ Where do I need support?

- Genba walk
- Review impact of not progressing the actions form RPIW #4- VSST will add this to the risk register in radiology and ED
- Delay in docmation form the printers which as delayed testing the revised CAS card.

What are my actions?

- Share moorhouse update and CQC improvement plan as only agenda item at next VSST meeting

Supporting RPIWs and Kaizen Events for Value Stream 6

	Value Stream 6: Emergency Department	Measure 30,60,90 days	Plan for roll out
RPIW #1: 30 April 2018	Specialty referral for ED patient	90-days	
RPIW #2: 9 July 2018	Front door streaming	90-days	Roll out to RSH site
RPIW #3: 24 Sept 2018	Documentation	90-days	New documentation in situ and currently being tested by staff
RPIW #4: 24 Sept 2018	Radiology Requests	90-days	Awaiting business plan approval
RPIW #5: 10 Dec 2018	Flow of Minors	90-days	Ongoing PDSA with plan to roll out and implement at PRH

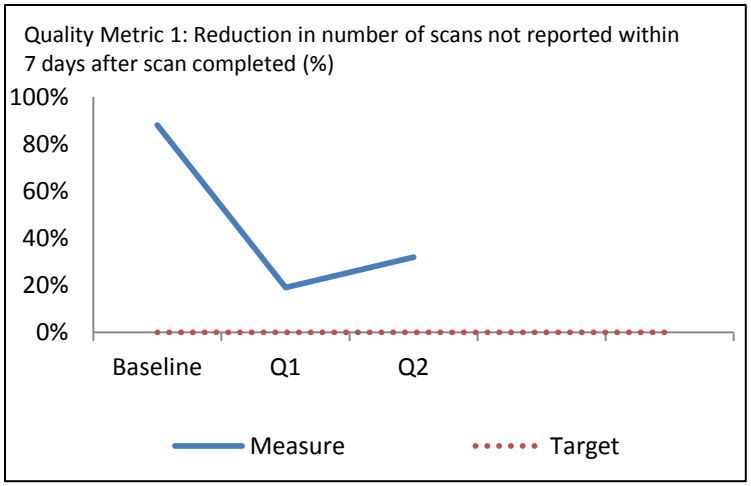
Major improvements/benefits: **Date of last update: June 2019**

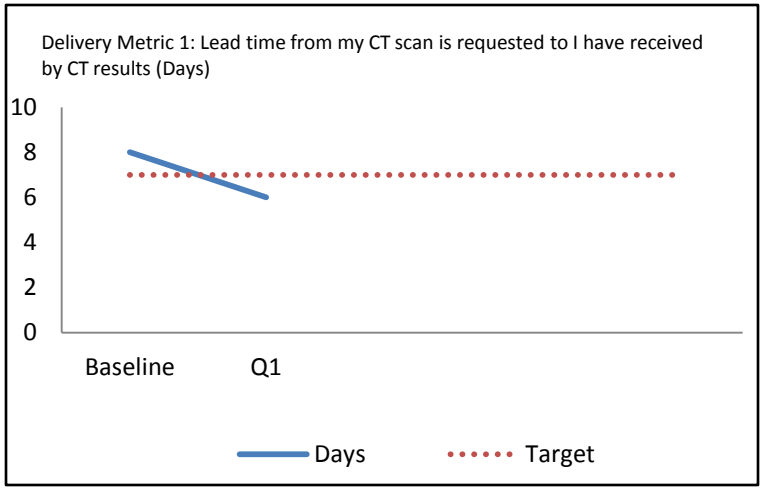
- Re-Launch Sponsor Development Day in June 2019 to process flow the pathway to identify improvements and bring together all quality improvement work within ED.
- Roll out of RPIW learning across both ED sites
- Improvement in minor performance at both sites.
- Kaizen event to explore the use of a CDU at RSH.

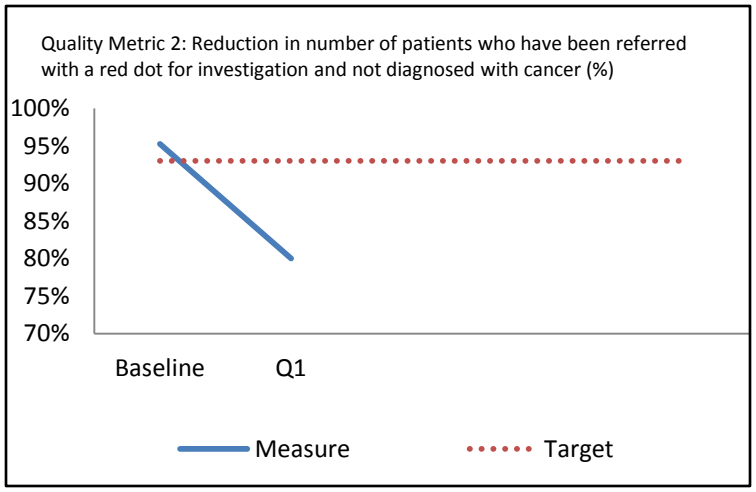
Value Stream #7 – Radiology

Data Metrics: June 2019

Exec sponsor: Julia Clarke







Value Stream #7 – Radiology – A3

RADIOLOGY VALUE STREAM A3

Goal: Reduction in time and improvement in quality of early detection and diagnosis of cancer in Colorectal Patients

Executive Sponsor: Julia Clark

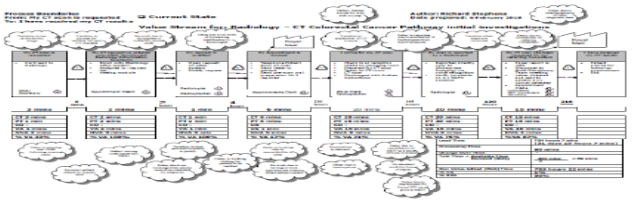
Sponsor Team:

Julia Clark (Executive Sponsor) (Lean for Leader); Glen Whitehouse (Operational Lead) (Lean for Leader), Jessica Greenwood (Lean for Leader), Steve McKew (Lean for Leader), Sally Warren, Mike Kirk, Kathryn Poli (Lean for Leader), Michael Mills (People's Academy), Doug Smith, Chris Skillicorn

KPO Support:
Richard Stephens

Aim Statement/Target Condition

Achieving improvements in survival will require a combination of earlier detection and diagnosis, better treatment and access to treatment, improved access to data and intelligence and reductions in variability around the country.



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
RPIW #1 Radiology Streaming	Joe Mccloud	Jon Lacey-Colson	25-29 June 2018
RPIW #2 Patient Ct Experience and reporting	Glen Whitehouse	Chris Skillicorn	24-28 September 2018
RPIW #3 Sharing CT results with Colorectal patients	Jess Greenwood/Steve McKew	Tracy Lunt/Emma Hamilton	19-23 November 2018
Kaizen event #1	Steve McKew	Emma Hamilton	6 – 10 November 2018
RPIW #4 MDT process	Sara Biffen	Kathryn Poli	29 April – 3 May 2019

Kaizen Plan

Month	RPIW – Topic	Link to value stream cycle box	Genba	Key improvements	Metric improvement
April 2018	**SDD**				
June 2018	Radiology Streaming	Cycle boxes	Clinic 2 RSH & Radiology department	• 5S of CT card • Visual Control with flow chart of process for completing CT card • Reduction in Lead time by requesting patients to deliver CT request card to Radiology following clinic appointment	100% improvement in completion of CT cards 49%reduction in Lead time (25 hours 41 mins – 13 hours)
September 2018	Patient CT experience and reporting	Cycle boxes	Radiology department PRH	• Visual control to remind staff not to interrupt reporting Radiologist • Introduction of patient information flow charts to be used as handouts • 5S of letters to improve information provided to patients 5S of Cannulation trolley	70% improvement 100% improvement in patient experience 25% improvement
November 2018	Sharing of CT results with Colorectal patients	Cycle boxe	Radiology department RSH	• Reduction in lead time due to sending results electronically directly to PA. Additionally, generic file produced to ensure files can be actioned if specific PA on leave/absent. • Introduction of Standard Work to radiology department, Secretary's office and Consultant office resulting in reduction in Lead Time • Introduction of template as visual control to ensure correct information is provided at the time an appointment, or MDT discussion is required • Patient leaflets produced to be handed to patients after CT scans	83% improvement in lead time (18 days – 3 days) 100% improvement in late additions being added to MDT 100% improvement in patient experience
February 2019	Use of Red Dot for Colorectal patients requiring a CT scanl	Cycle boxes	Radiology department & cancer tracker office RSH	• Lead time reduced by nominating HCA in clinic to transport completed CT request cards to Radiology department on a regular basis during clinic • Remove "Red Dot" from CT request card and update Standard Work to include checklist to ensure correct prioritisation of CT appointment as requested by Consultant in clinic • Introduction of flow chart in clinic to educate/inform staff of new standard work	56% reduction in lead time (132 mins – 58 mins) by end of Kaizen event 100% improvement in improving prioritisation of CT card following consultation. 100% improvement in clinician knowledge of process
April 2019	MDT process	Cycle boxes 5,6,7	MDT meeting room and Cancer Tracker office RSH	• Reduction in lead time due to revising the process for the MDT referral and preparation of the MDT list. Needs further testing to identify significant improvement • Update to the referral proforma using 5S, a change to the process by using an i-pad for accessing system data in lieu of patient notes, and addition of Consultant leave as an agenda item has resulted in signigicant improvements to the quality defects.	TBC following 30/60/90 day re measures

Value Stream #7 – Radiology – A3

Key Targets

Metric	Baseline	Target	Q1 (August - October 2018)	Q2 (November - January 2019)
1. Reduction in breaches of 62 day target	22% (7/31.5)	0	27% (15/56)	24% (10/42)
2. Reduction in number of scans not reported within 7 days after scan completed	88% (51/58)	0%	19% (15/77)	32% (29/89)
3. Lead time 1: From my CT scan is requested – To I have received my CT results	754 hours 7 mins (31 days 10 hours 7 mins)	14 days	20 days	22 days
4. Lead time 2: From when I arrive for my scan – To when my scan is reported by a Radiologist	208 hours (8 days 16 hours)	7 days	6 days	7 days
5. Staff Experience: "How do you feel about working in Radiology?"	53%	0%	53%	57%

Value Stream Executive Sponsor Comments

What has gone well?

- Engagement from all members of the Radiology team from both sites.
- Support and engagement from Patients & patient representatives. The team has been consistently supported by Michael Mills as a member of the People's Acadamy as part of the Sponsor team as well as taking part in a RPIW and Kaizen event.
- Significant reduction in both Lead Times, and reduction in time taken taken to report scans

What could have gone better/ Where do I need support?

- Selection of appropriate overarching metrics
- Selection of focus (Colorectal) for the value stream

What are my actions?

- Develop roll-out plan
- Genba walks into Radiology to support embedding of changes
- Support to RPIW #4
- Develop plan for handover to Care Group

Supporting RPIWs and Kaizen Events for Value Stream 7

	Value Stream 7: Radiology	Measure 30,60,90 days	Plan for roll out
RPIW #1: 25 June 2018	Radiology Streaming	Closed	Roll out
RPIW #2: 24 Sept 2018	CT Reporting	Closed	
RPIW #3 19 Nov 2018	Sharing CT results with patients	Closed	
Kaizen Event #1: Feb 2019	Red Dot (2-week pathway) Process	90-days	
RPIW #4: 29 April 2019	MDT Preparation and processing	60-days	

Major improvements/benefits: **Date of last update: June 2019**

- 98% reduction in time taken to vet CT requests
- 100% reduction in defective CT cards
- 65% reduction in reporting CT scans
- 50% reduction in scans awaiting review and reporting over 7 days
- 62% reduction in time preparing patient for scan
- 60% reduction in time for CT scan report available and sent to referrer

Supporting RPIWs and Kaizen Events for Value Stream 8

	Value Stream 8: Surgical Pathway	Measure 30,60,90 days	Plan for roll out
RPIW #1: Oct 2018	Accurate booking of inpatient lists	Closed	Roll out into each centre
RPIW #2: Dec 2018	Pre-operative checklist process	Closed	Implementation plan developed and roll out planned for June 2019
RPIW #3: Feb 2019	5 Steps to Safer Surgery	90-days	Roll out planned June 2019
Fours Eyes Insight: May 2019	Scheduling and flow work		16 week programme with roll out

Major improvements/benefits: **Date of last update: June 2019**

- RPIW #1 roll out continues for TCI forms and phone calls before day of surgery to the patient; this is improving DNA rates, theatre efficiency and patient satisfaction
- RPIW #2 first patient on the list called through straightaway reducing their wait by 30 minutes, thus improving theatre efficiency
- RPIW #3 has shown a 100% improvement in percentage of times debrief was not documented, thus improving communication and safety within theatre teams

Value Stream #8 – Surgical Pathway – A3

Surgical Pathway VALUE STREAM A3

Goal:

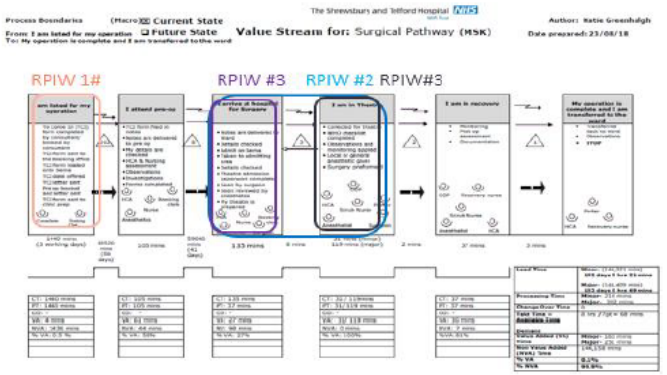
Executive Sponsor:	**Nigel Lee**

Sponsor Team: Neil Rogers, Kevin Lloyd, Janine McDonnell, Paul Jones, Mark Cheetham, Linda Fairclough, Ciara Edwards, Katy Moynihan, Kath Preece, Andrena Weston, Alison Haycock, Michelle Sillitoe.

KPO Support:
Katie Greenhalgh

Aim Statement/Target Condition

The Surgical Pathway Value Stream strives to improve safety and efficiency. This is from the prespective of the patient and the boundaries are from I am listed for my operation to my operation is complete and I am transfereed to the ward.



The Plan to Improve:

RPIW Topic	Sponsor	Process Owner	Date
RPIW#1 Accurate booking of inpatient list to improve patient safety	Rob Turner	Aaron Evans	22nd to 26th October 2018
RPIW#2 Pre Op Checklist	Katy Moyiham	Karen Gordon &	10th to 14th December 2018
Kaizen event #1 Consent	Tony Fox	Mr P Moreau	8th, 9th and 10th April 2019
RPIW#3 5 Safer steps to surgery	Katy Moyniham & Mark Cheetham	David Scotcher & Ron Dodenhoff	4th to 8th Febiuary 2019

Kaizen Plan

Month	RPIW – Topic and Date	Link to value stream cycle box	Genba	Sponsor	Process Owner	L4L
June 2019	The list lock down	Cycle Box 1-4	Urology	Neil Rogers	TBC	TBC
August 2019	Radiographer provision	Cycle Box 4	TBC	TBC	TBC	TBC

Value Stream #8 – Surgical Pathway – A3

Value Stream Action Plan

Focus Area	Activity List activities in support of the focus areas.	Target Completion Date	Completed
Continue to realise the gains based on Meridian and Four Eyes Insight review.	RPIW#1 implemented some key concepts RPIW#4 plans to explore utilisation and lockdown Align improvements to efficiency targets	September 2019	
Improve safety within the Surgical Pathway and apply learning from recent Never Events.	Ensure RPIW and Kaizen plan focuses on these areas Align with care group governace	March 2019	
Develop a Target Progress Report to monitor the share and spread of the outcomes of the Value stream	Develop Target Progress Report Gather information to monitor share and spread	March 2019	

Value Stream Executive Sponsor Comments

What has gone well?

- There has been a high level of engagment with the theatres team
- The additional safety meaures have improved overall safety

What could have gone better/ Where do I need support?

- Genba walks to understand the pathway
- A clear vision from the Sponsor team of the direction of the value stream
- Engagement with more medical staff

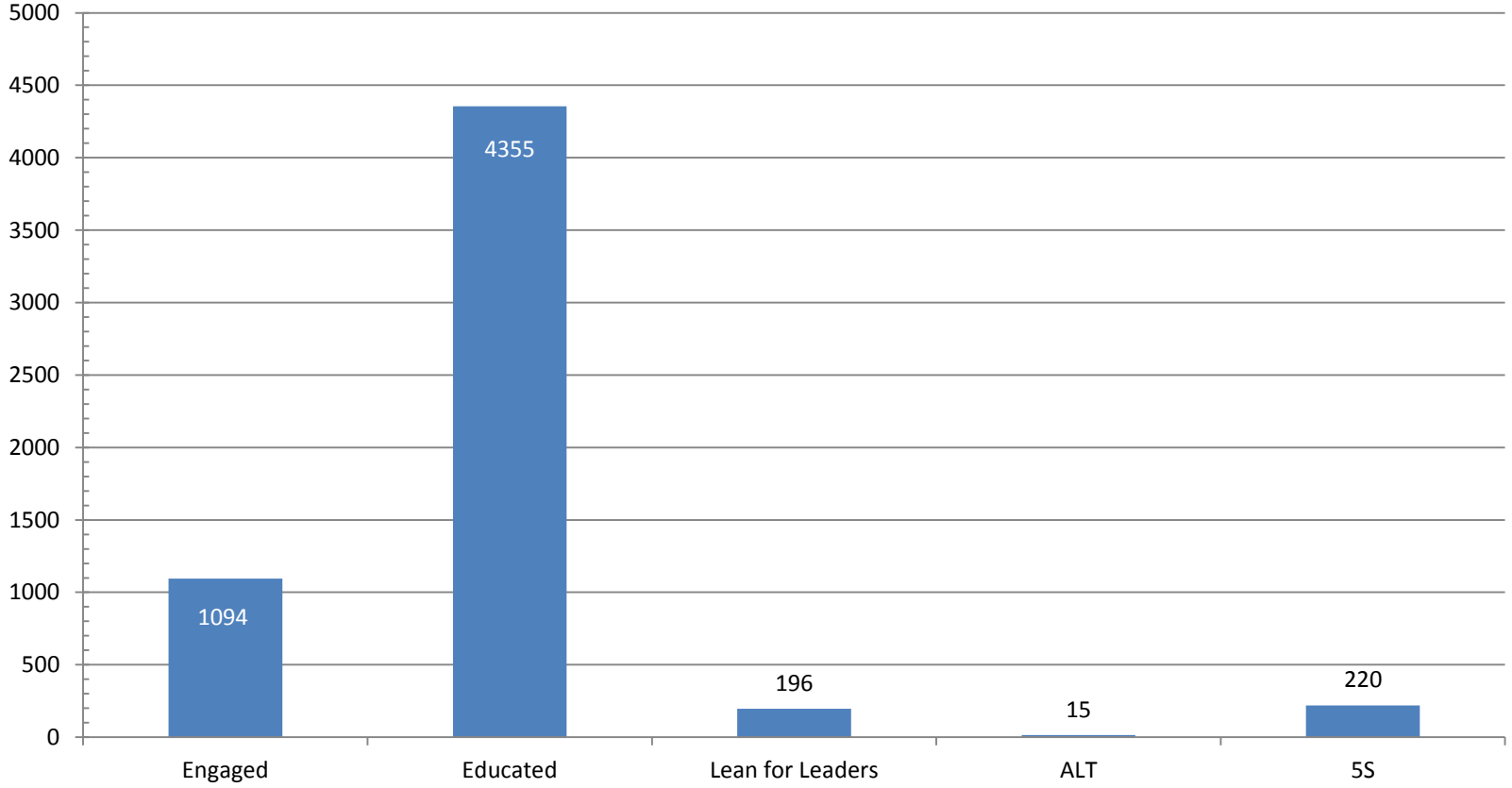
What are my actions?

- Regular Genba walks to support the ongoing Surgical Value Stream work
- Align the CQC, GIRT, Model Hospital and Moorhouse work with the Value Stream
- Incoperate cost improvement programmes

Kaizen Events

		Measure 30,60,90 days
KE #1: 10 Jan 2018 (3 days)	Stroke: Swallow Test	Post 90 days
KE #2: 28 Feb 2018 (3 days)	Stroke: Discharge	Post 90 days
KE #3: 28 Feb 2018 (5 day RPIW)	Patient Flow: Fact Finding Assessment	Post 90 days
KE #4: 12 Mar 2018 (5 day RPIW)	Patient Flow: Ambulatory Emergency Care	Post 90 days
KE #5: 12 June 2018 (3 days)	Patient Flow: Transport	Post 90-days
Theatres: June 2018 (5 day RPIW)	Theatres: Procurement/Supplies	Post 90-days
KE #6: 20 Sept 2018 (3 days)	Stroke: CT Scanning	Post 90-days
VS#4 KE#1: Dec 2018 (3 days)	OPD Opthalmology: Clinic Flow	Post 90-days
VS#5 KE#1: Nov 2018 (2 days)	Patient Safety: Sharing of Learning with parents and carers	Post 90-days
VS#7 KE#1: Feb 2019 (2 days)	Radiology: Red Dot Process	90-days
KE #6: January 2019 (3 days)	Early Warning Score	90-days
KE #7: March 2019 (3 days)	Discharge letters and TTO	Post Kaizen Event
VS#3 KE #1: May 2019 (3 days)	Morning Medical Handover	Post Kaizen Event
Lung Cancer Pathway KE #1: May 2019 (3 days)	CT Guided Biopsy	Post Kaizen Event

Education and Training



Engaged Using TCPS Methodology	**Educated** 30 minutes or more in TCPS Methodology	**Lean for Leaders**	**Advanced Lean Training (4 having undertaken RPIW Lead role)**	**5S Work shops**

Lean for Leaders

Cohort No. and Start Date	No. Starting participants	No. Current participants	End Date	No. Graduates (post final project)
#1 (16/17)	40	36	Nov 17	30
#2 (17/18)	60	44	Jan 18	34
#3 (18)	54	50	Nov 18	23
#4 (18/19)	70	60	July 2019	
#5 (19/20)	45	45		Cohort starting July 2019

TGT	LFL	ALT
% TGT in/through :	4/10 40%	4/10 40%
No. Current:	4	3
No. Graduates:	3/4	2/3

Example of TCPS / 5S improvements:

Project Title	Description	TCPS Intervention	Outcome
5S of Fluid Store on Ward Gastro & Urology Wards	100% defect in sourcing the correct fluid in a reasonable time	5S, mistake proofing and visual control	Significant reduction in lead time from request for fluids to sourcing it.
End of Life boxes on ITU	No allocated area for end of life supplies	5S, mistake proofing and visual controls	100% quality metric as end of life boxes now readily available, with information on how to restock
Finance Board Report	Over 3 hours to complete a monthly report; information in over 7 folders, and only 2 staff knew the process how to complete it	Set up reduction and standard work	Over 2 hour reduction in lead time to complete the report, and standard work now written so anyone can produce it

Aligning Organisational Objectives	Infrastructure & Resource	Embedding one improvement and leadership methodology
Trust Strategy  Transforming Care Institute  Values  	• KPO capacity will be challenged in the short term as our KPO Lead left the Trust at the end of March and recruitment is underway • Secondments within the KPO Team are going well • Successful recruitment of a KPO Specialist who will commence in post July 2019	• The new Executives who have recently commenced within the Trust have now received their onboarding packs to support their TCPS journey • Over 4350 staff have now received 30 minutes or more of TCPS training • Almost 1100 staff have now used the methodology to make improvement • Over 50 participants to commence their 2019/20 Lean for Leaders training in July 2019
	4th Annual National Sharing Event being hosted by SaTH	**TGB are asked to note that:**
	• SaTH are delighted to host the 2019 National Sharing Event which will take place on: • Wednesday 26 June 2019 at the Shropshire Education & Conference Centre at the Royal Shrewsbury Hospital • The focus will be on ***'Pathway to Outstanding'*** • Keynote speaker: Kate Silvester, a doctor with 20 years experience of system design and improvement in healthcare	• KPO Team facilitated a highly successful report out to SaTH's Trust Board; over 90 minutes, 36 staff members reported out on the improvements they have made to processes using TCPS • KPO Team supported two high profile visits to the Trust by Professor Ted Baker (Head CQC Inspector), and Peter Wyman (CQC Chair); during their visit to SaTH, the KPO Team arranged a number of genba walks to a wide variety of areas including Blood Sciences, ITU and Cardiology Ward