UKKA KQuIP

UK Kidney Association

To achieve an average peritonitis infection rate of <0.40 and no unit to have a rate of above 0.45 in the East and West Midlands by October 2023...

(added May 2022)...and to achieve an average peritonitis infection rate of <0.35 and no unit to have a rate of above 0.40 in the East and West Midlands by October 2024.

Midlands peritonitis QI project

Reviewing changes

What have we achieved so far?

- ✓ Gained regional consensus on how to calculate peritonitis rates consistently – enable regional comparison
- ✓ Identified members of the PD MDT from each trust in region to lead the project locally
- ✓ Agreed a regional aim for our project
- ✓ Thought about what variations in practice might impact peritonitis, carried out local research and shared current practice
- ✓ Discussed submission / calculation of regional peritonitis rates locally, regionally, nationally
- ✓ Agreed local aims and recruited a QI team at each unit
- ✓ Created a regional driver diagram and units started adapting for local use
- ✓ Planned initial change ideas and measurement

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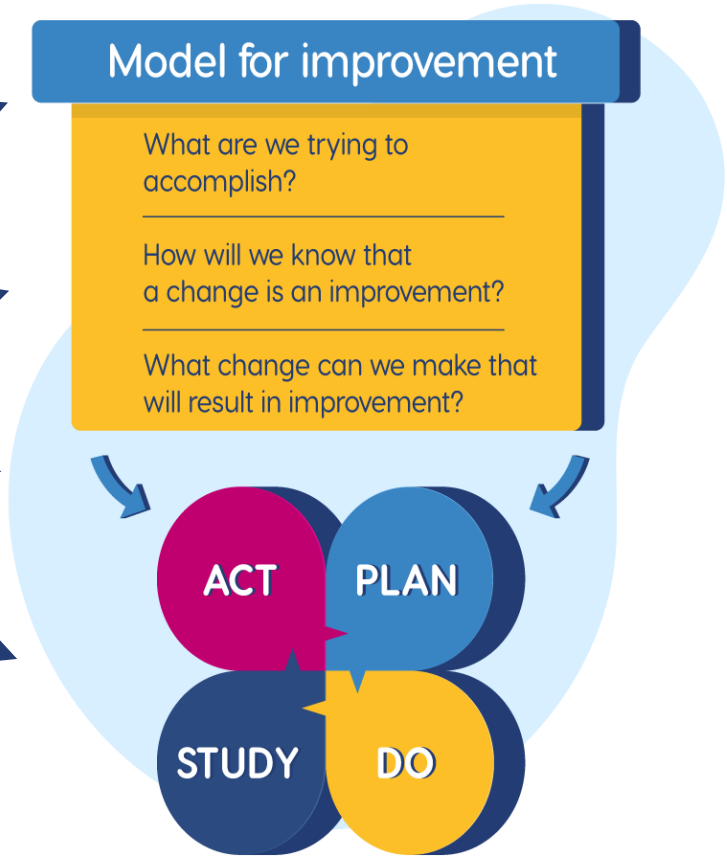
Steps in QI – the process

1. Agree an area for improvement
2. Involve and assemble your team
3. Understand your problem/ system
4. Define project aim and scope
5. Choose 'just enough' project measures
6. Develop change ideas
7. **Test change ideas (PDSA)**
8. Measure impact of changes
9. Do further testing of change ideas
10. Implement successful changes

Share your progress



IHI Model for Improvement

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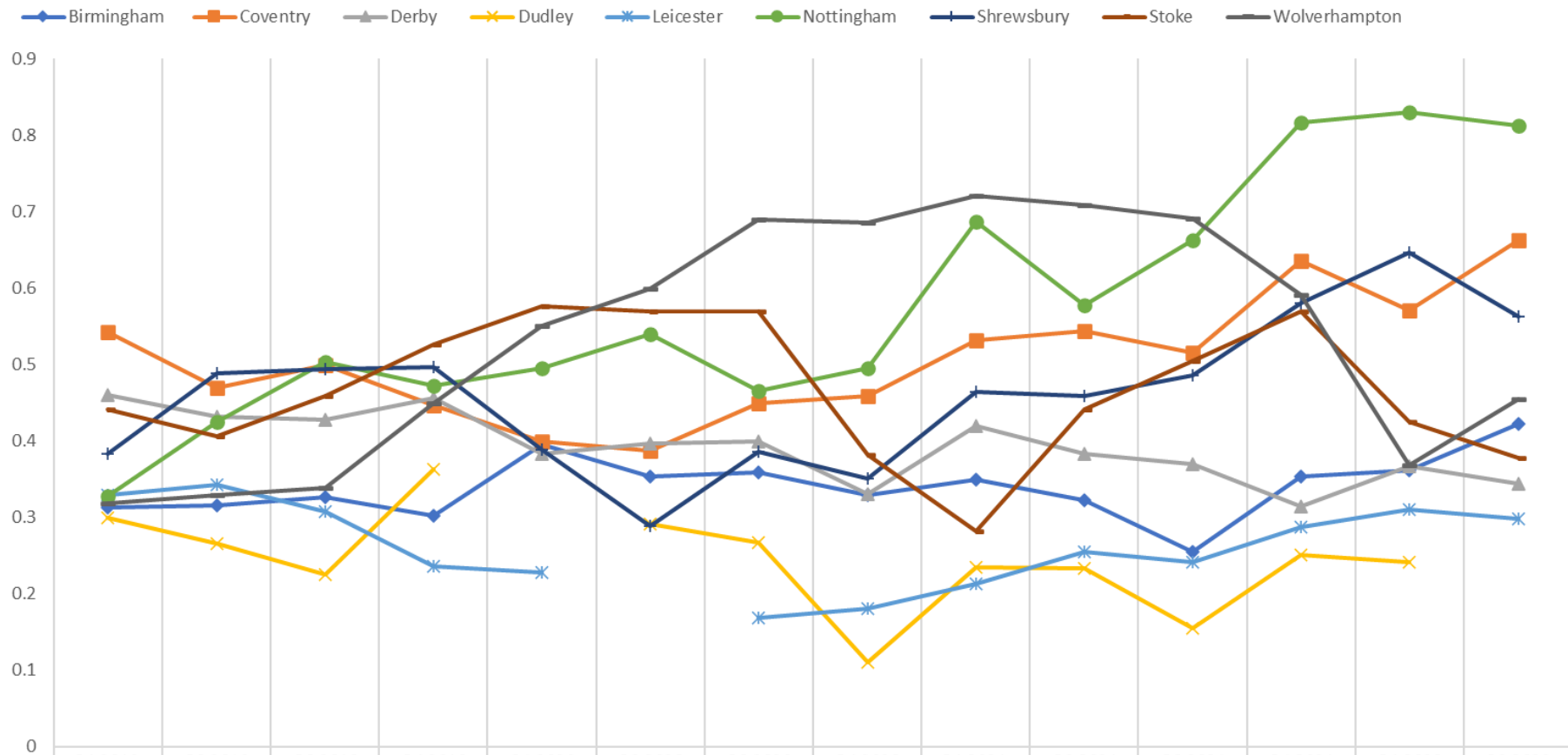
PERITONITIS RATES PER PATIENT YEAR



	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
Birmingham	0.312559467	0.315873116	0.326025637	0.301991945	0.394877782	0.353972972	0.359335634	0.329571106	0.34917451	0.322354027	0.255587922	0.353404789	0.362193877	0.422992235
Coventry	0.543209877	0.469930544	0.5	0.446319393	0.399657827	0.386806199	0.449449125	0.459030667	0.532087207	0.544440481	0.515164446	0.635345507	0.571224028	0.662278501
Derby	0.460841961	0.432160432	0.42805207	0.456497269	0.383504071	0.39673913	0.400036533	0.330122552	0.420134585	0.383118303	0.369277464	0.31499137	0.367676686	0.343758584
Dudley	0.299748499	0.265889638	0.225922258	0.36318408		0.291455949	0.266812865	0.110246923	0.235369982	0.2337496	0.154573687	0.251338944	0.24204244	
Leicester	0.328794976	0.343271821	0.308353625	0.235495125	0.227950871		0.168061951	0.180332256	0.213840457	0.254763074	0.240924092	0.287688508	0.310570331	0.298467361
Nottingham	0.328121169	0.425167667	0.50410601	0.472050582	0.495854814	0.539777501	0.465635465	0.495866574	0.687113732	0.577956229	0.663398783	0.815961	0.829655081	0.812938648
Shrewsbury	0.383511821	0.488220573	0.493764532	0.496122172	0.389333333	0.289389068	0.386294483	0.350517264	0.464763996	0.458635645	0.486499269	0.579798169	0.647194134	0.56221994
Stoke	0.441933206	0.406788247	0.458911047	0.526733531	0.576979634	0.570022518	0.570022518	0.382492665	0.28214897	0.441804166	0.505159912	0.569817866	0.425464275	0.377386002
Wolverhampton	0.318421945	0.328795916	0.33841732	0.44897573	0.550860248	0.599629041	0.689257239	0.685988427	0.72127434	0.708268257	0.691639322	0.591684943	0.368031882	0.454393105

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Aim and Objectives

- **Hear from each other how projects are going**
  - Review aims, data, interventions and challenges

- **Discuss barriers to improvement and how to overcome**
  - Teams to share challenges, all to offer ideas and possible solutions (peer assist)

- **Review data**
  - Review latest submitted NHS dashboard data and compare to locally reported rates, discuss variation and future data requirements

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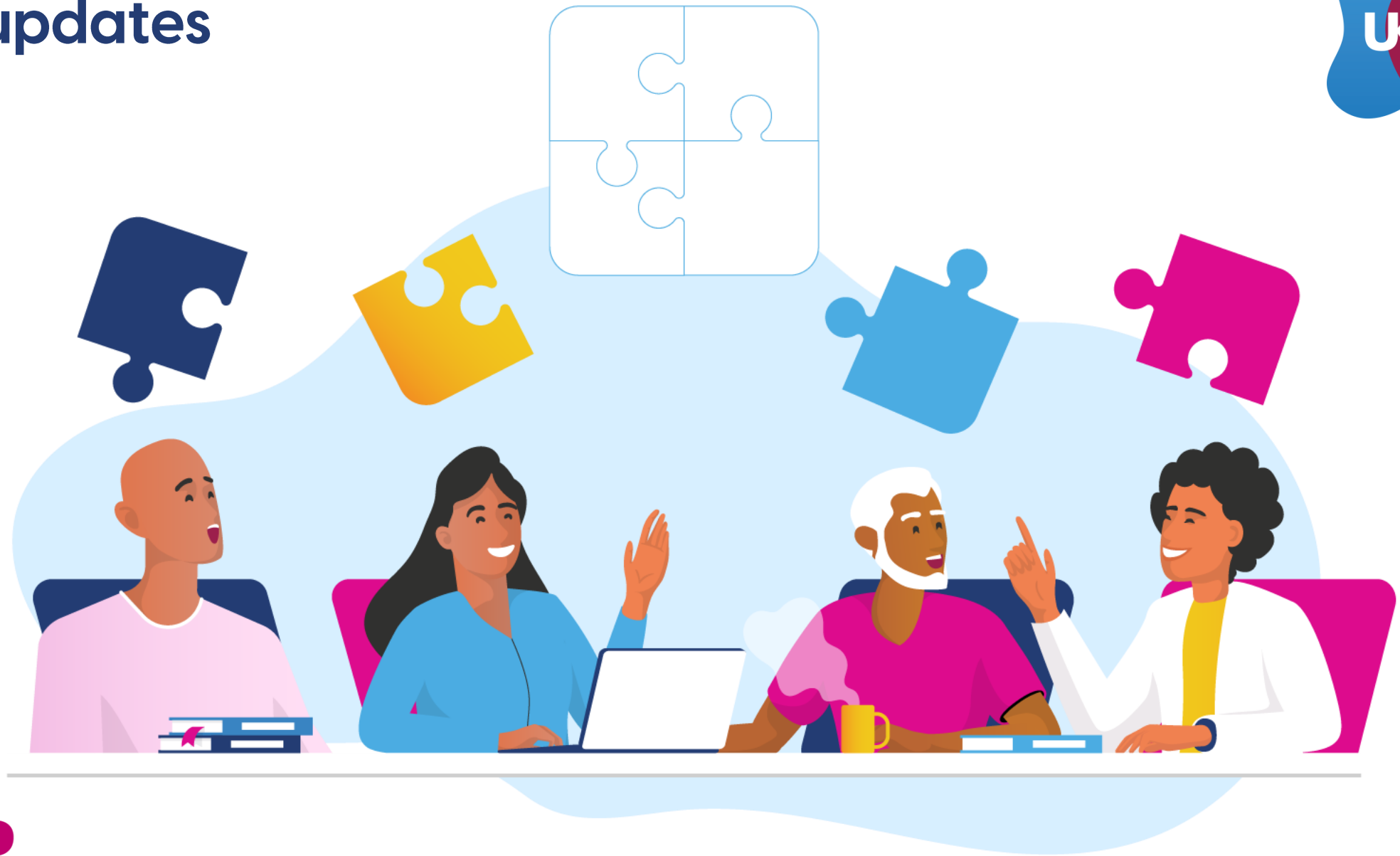
Unit updates



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Shrewsbury

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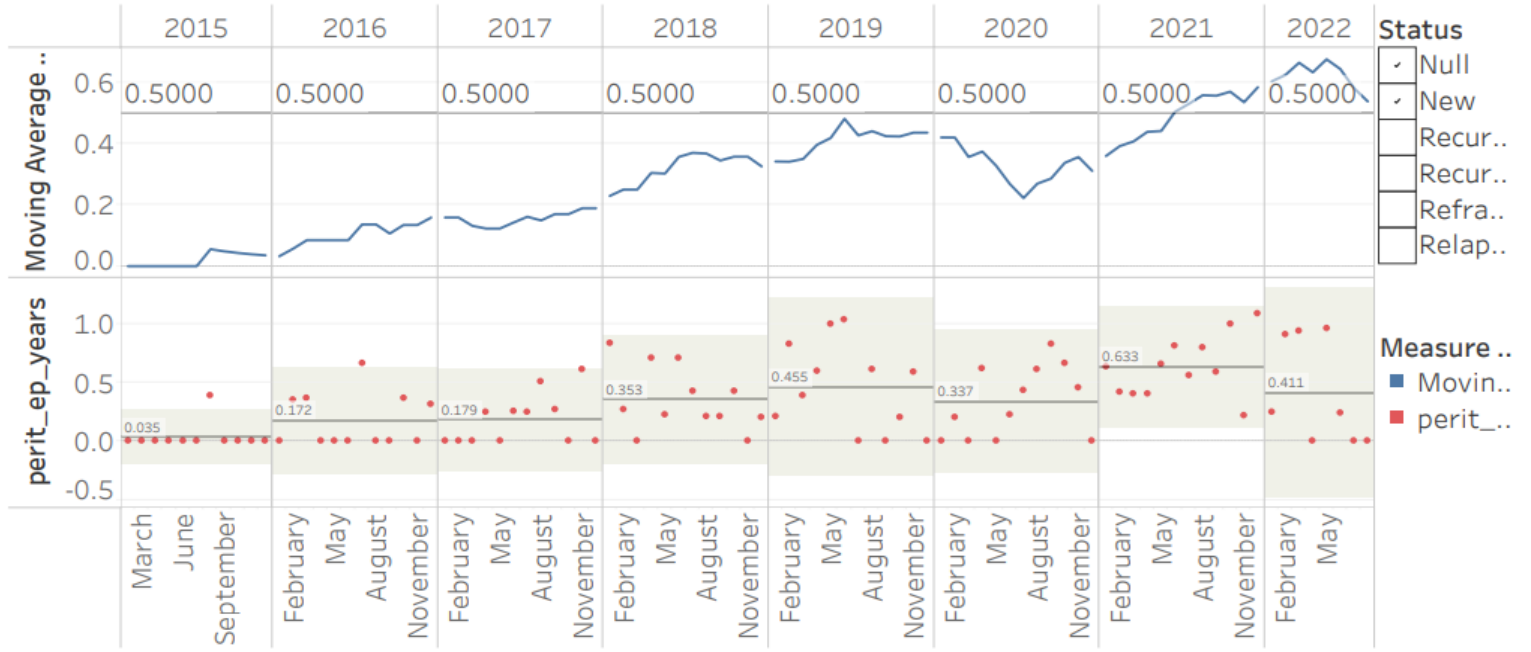
SATH PD Care outcomes

Report created using data from

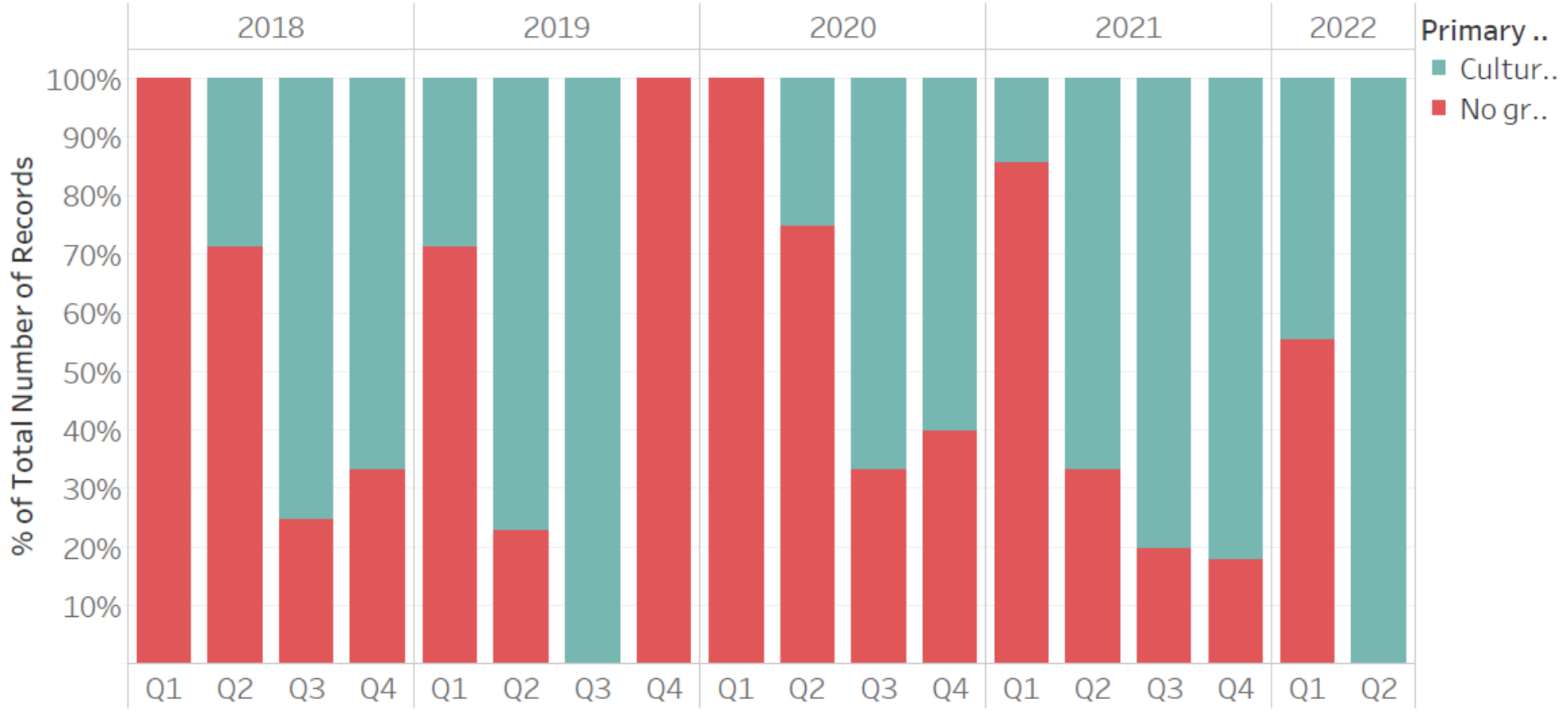
22 August 2022

SATH PD Care outcomes

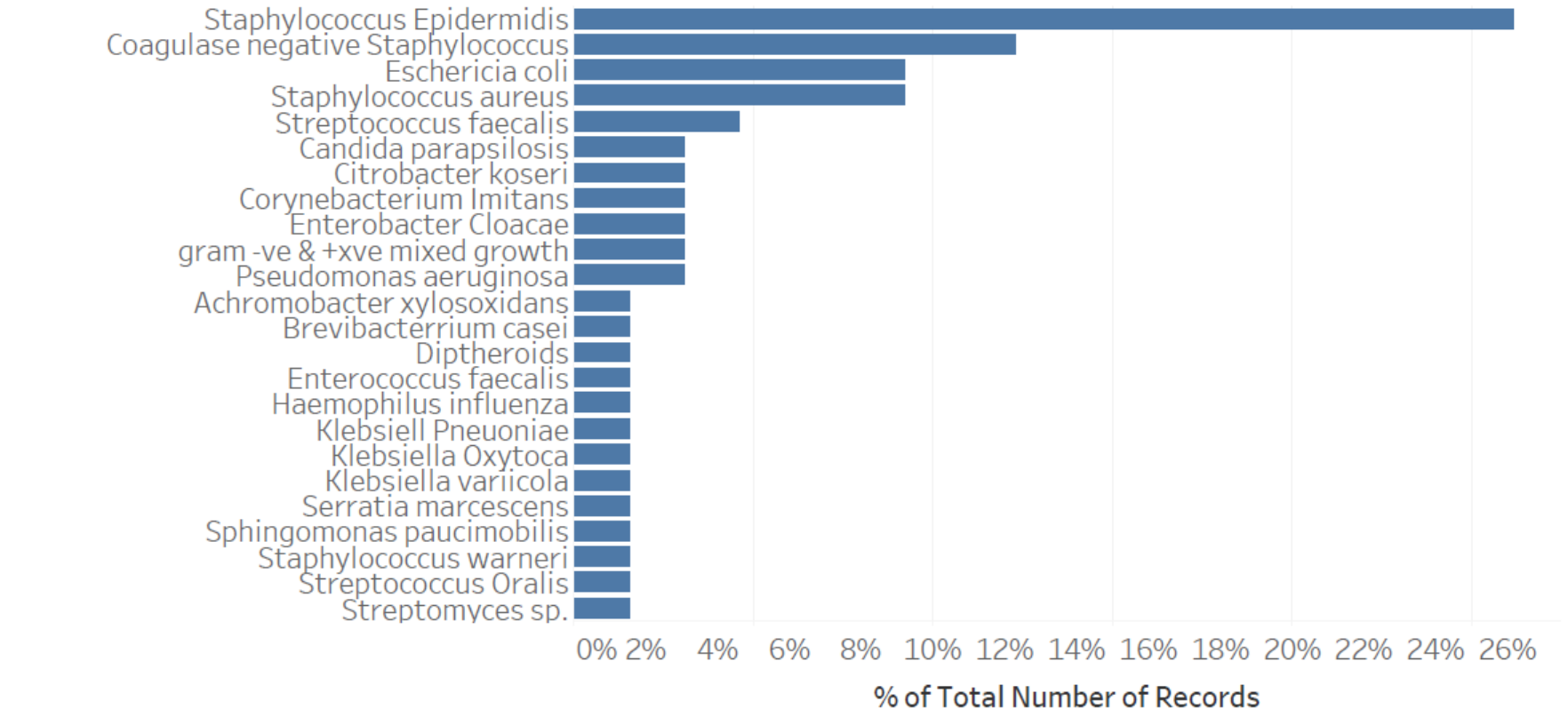
Anaemia | Hb control and ESA use | ESA doses per week | Catheter survival | PD insertion techniques | Surgical v medical | Catheter complications | Peritonitis SPC | Peritonitis culture res.. | Types of organisms | Time to peritonitis | PD technique s.. | Tx plans | Diabetes care | Summary



SATH PD Care outcomes

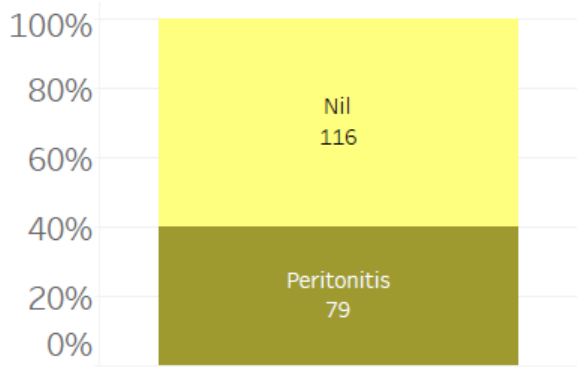


SATH PD Care outcomes

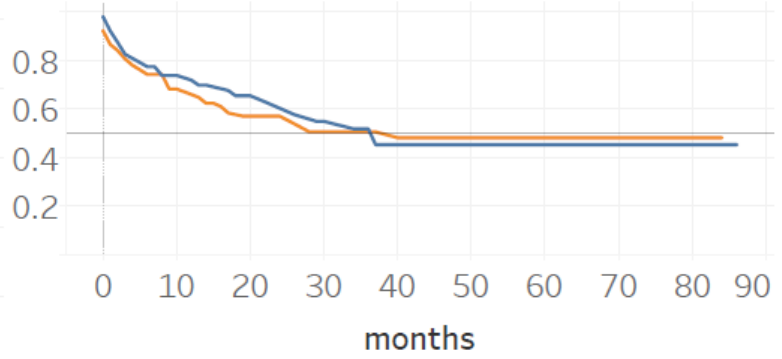


SATH PD Care outcomes

Fractions with peritonitis

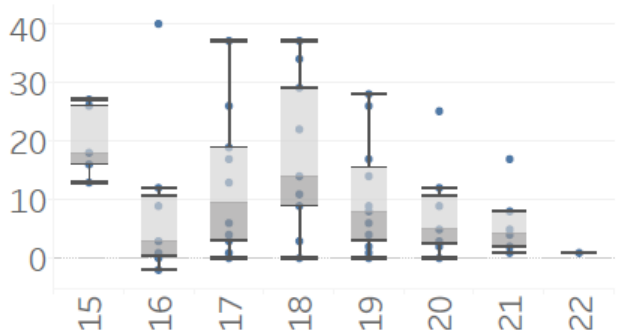


Time to first peritonitis by gender

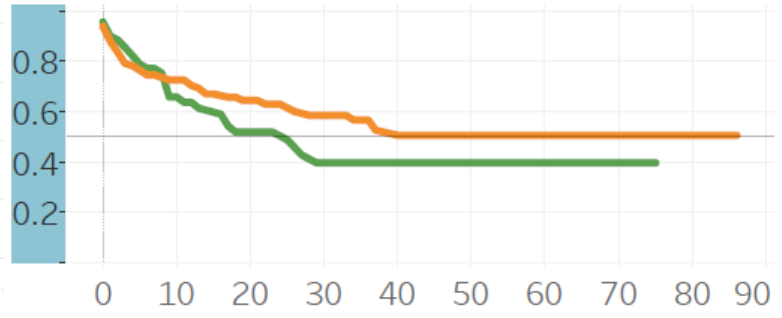


Sex
Fema..
Male

Median time to first peritonitis based on rrt start year



Time to first peritonitis by diabetes



Diabetic..
No di..
Diab..

Specific	Reduction in peritonitis incidence to 0.40 episodes per pt year.	**Introduce new peritonitis protocol, more in alliance with ISPD guidelines.** **Improved lab analysis of samples to reduce culture negative results.** **Pt infection risk assessment using assessment tool and planned interventions.** **Improved/extended Pt training.**
Measureable	Peritonitis rate measured in episodes per pt year. % pts infection free. Rates of organism specific infections.	All episodes recorded on CV. RCA completed for each peritonitis episode. Antibiotics susceptibility in each episode.
Achievable	Peritonitis rate to reduce to 0.40 per pt year	Introduce monthly peritonitis RCA meeting. Pt engagement in individual risk assessments. PDSA cycle used to continually review and improve project.
Relevant	In line with Trust values, ISPD, RA values.	Education of wider renal teams with changes. Pt feedback included as part of reviews.
Timebound	Peritonitis rate 0.4 by Oct 2023	Audit of pt infection risk pre project, then 6 monthly. Audit of peritonitis episodes and incidence of culture negative episodes pre project then 3 monthly. Infection rates collected monthly

What we planned:

- Changed Peritonitis protocol (aug 2021) to align it to ISPD guidelines
- Longer spin time on sample
- Additional blood culture bottle for culture
- Add differential (still trying)
- Structured risk assessment and nursing intervention
- RCA after every peritonitis and ESI
- Quarterly RCA meetings
- Monthly peritonitis rates as well as % Peritonitis free, culture neg, individual bacteria

Achieved:

- Change in peritonitis protocol
- Lab practice changes apart form differential (still in progress)
- Introduced structured risk assessment
- Introduced planned nursing interventions depending on risk
- Pt training more robust with more focus on Peritonitis, its importance and prevention.
- RCA completed for each peritonitis and exit site infection.
- RCA meetings.

Still to achieve:

- Differential analysis from lab
- Audits monthly
- Further reduction in Peritonitis rate

Nottingham

KQuIP

Midlands Peritonitis QI project

Nottingham project update Sept 7th 2022

Improvement team

- Lead nurse –Rachel Humphreys
- Consultant – Jenny Allen
- Microbiology representative – no suitable people identified
- Patient representative – TBC
- Assisted APD team representative – Ginette Brewster
- Trainee representative – TBC – Jenny is awaiting a response from SpR who expressed interest.

Aim statement – (SMART)

Project 1

S – To improve patient PD technique and reduce peritonitis rates by offering refresher technique training to all PD patients

M – Measure frequency of refresher, uptake and peritonitis rates

A – Named nurses to take on refresher training, all patients to be invited, to use both Nottingham and Kings Mill Hospital sites

R – Adequate staffing exists and excellent team engagement with initiative

T – All patients to have been offered refresher after 6 months of treatment

Project 2

S – To improve treatment of peritonitis and identify themes for quality improvement by revamping peritonitis review meetings

M – Measure peritonitis rates and audit treatment of peritonitis

A – To use format from current peritonitis review meetings but to increase frequency

R – Using existing infrastructure and structure of meetings

T – Meetings will be changed from annual review to quarterly review.

Baseline data

- October 2021
  - Rolling audit
  - Based on handwritten nursing records
- Improvements
  - Correct reporting of relapses/recurrent/secondary episodes
  - Regular review of each episode to ensure data correct

Ideas for change

- Improving RCA process and review of each episode
- Refresher training
- Better utilisation of improvement team
- Rolling action plan
- Staff recruitment
- Need to ensure data is reported correctly – to add in additional project for SpR to take on

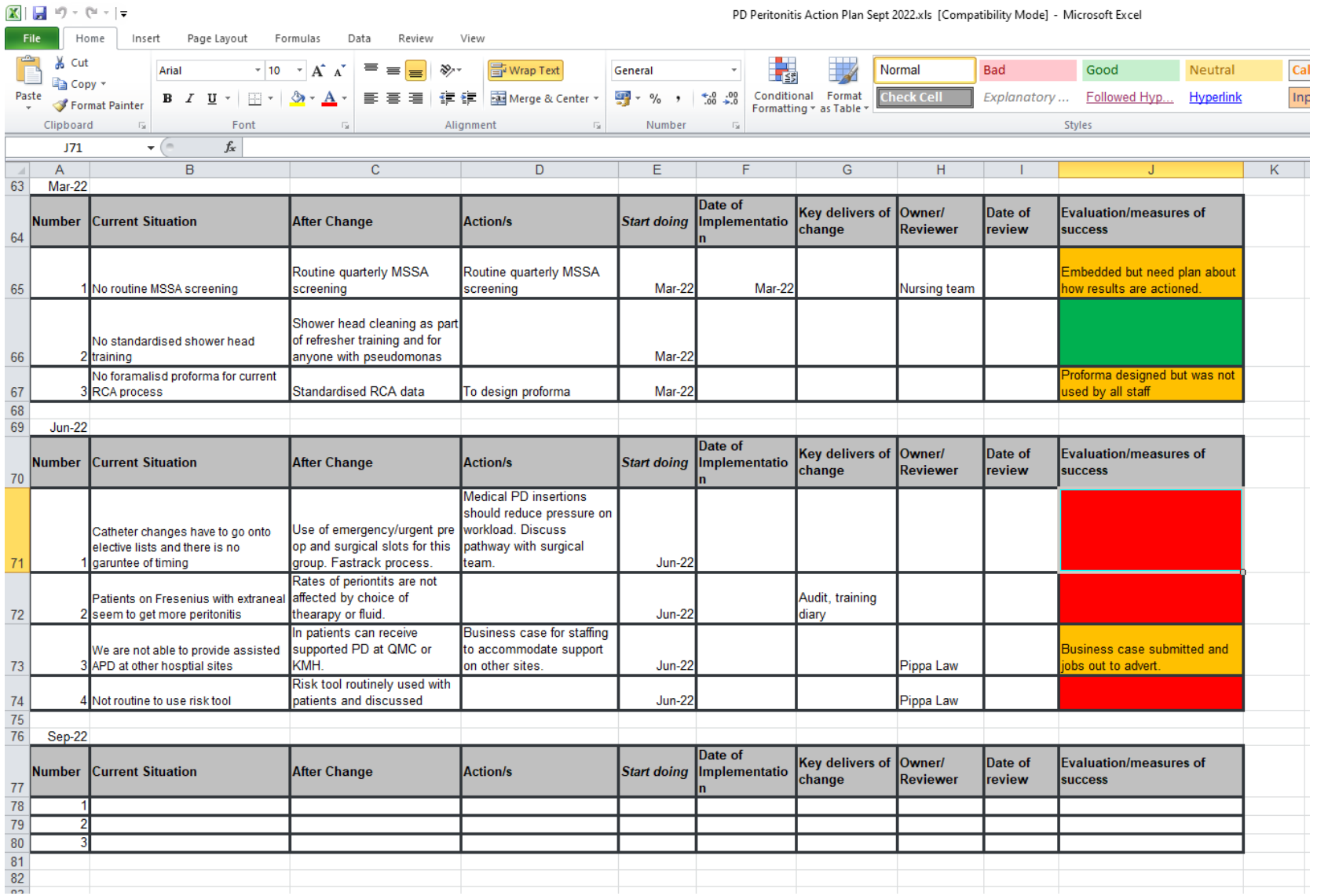
What we have implemented so far

Project 1

- 3 x refresher sessions done
- Limited uptake. Sessions missed over summer months. Impacted by staff changes and absences.
- Number of patients – ???
- Feedback ?????

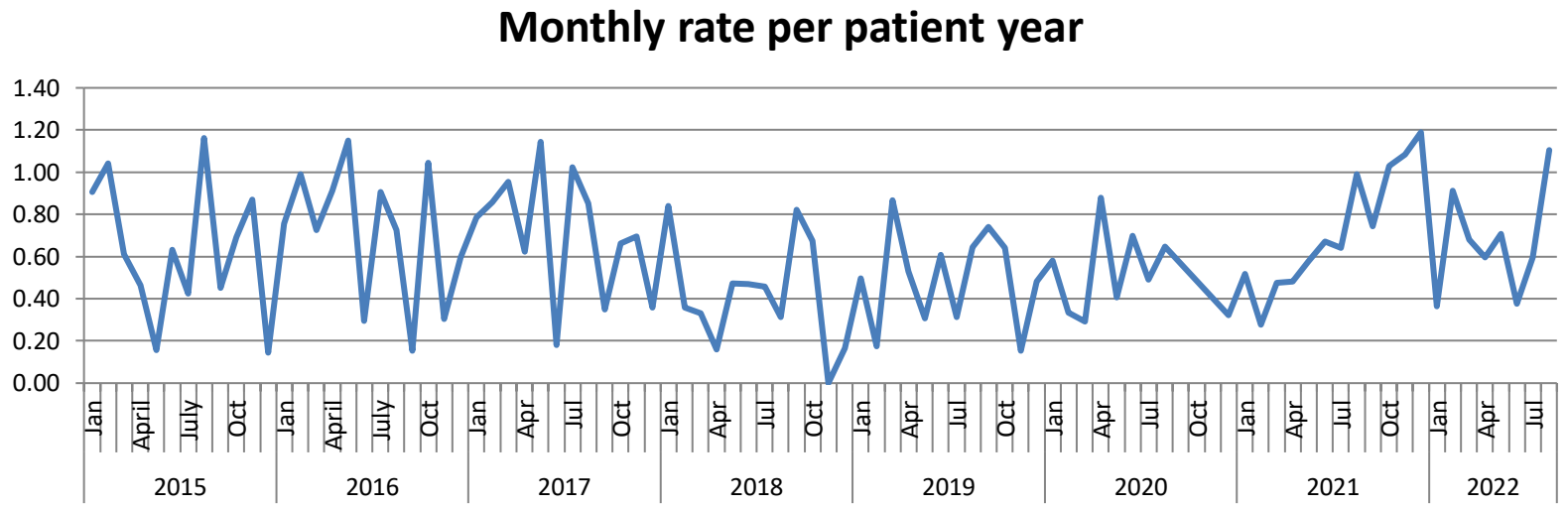
Project 2

- Weekly reviews taking place as standard
- Quarterly RCA review – March and June reviews done
- Peritonitis rolling action plan in place with review planned for Sept



	A	B	C	D	E	F	G	H	I	J	K
63	Mar-22										
64	**Number**	**Current Situation**	**After Change**	**Action/s**	***Start doing***	**Date of Implementation**	**Key delivers of change**	**Owner/ Reviewer**	**Date of review**	**Evaluation/measures of success**	
65	1	No routine MSSA screening	Routine quarterly MSSA screening	Routine quarterly MSSA screening	Mar-22	Mar-22		Nursing team		Embedded but need plan about how results are actioned.	
66	2	No standardised shower head training	Shower head cleaning as part of refresher training and for anyone with pseudomonas		Mar-22						
67	3	No foramalisd proforma for current RCA process	Standardised RCA data	To design proforma	Mar-22					Proforma designed but was not used by all staff	
68											
69	Jun-22										
70	**Number**	**Current Situation**	**After Change**	**Action/s**	***Start doing***	**Date of Implementation**	**Key delivers of change**	**Owner/ Reviewer**	**Date of review**	**Evaluation/measures of success**	
71	1	Catheter changes have to go onto elective lists and there is no garuntee of timing	Use of emergency/urgent pre op and surgical slots for this group. Fastrack process.	Medical PD insertions should reduce pressure on workload. Discuss pathway with surgical team.	Jun-22						
72	2	Patients on Fresenius with extraneal seem to get more peritonitis	Rates of periontits are not affected by choice of thearapy or fluid.		Jun-22		Audit, training diary				
73	3	We are not able to provide assisted APD at other hosptial sites	In patients can receive supported PD at QMC or KMH.	Business case for staffing to accommodate support on other sites.	Jun-22			Pippa Law		Business case submitted and jobs out to advert.	
74	4	Not routine to use risk tool	Risk tool routinely used with patients and discussed		Jun-22			Pippa Law			
75											
76	Sep-22										
77	**Number**	**Current Situation**	**After Change**	**Action/s**	***Start doing***	**Date of Implementation**	**Key delivers of change**	**Owner/ Reviewer**	**Date of review**	**Evaluation/measures of success**	
78	1										
79	2										
80	3										
81											
82											

Data


Monthly rate per patient year
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Jan
April
July
Oct
Jan
April
July
Oct
Jan
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Jul
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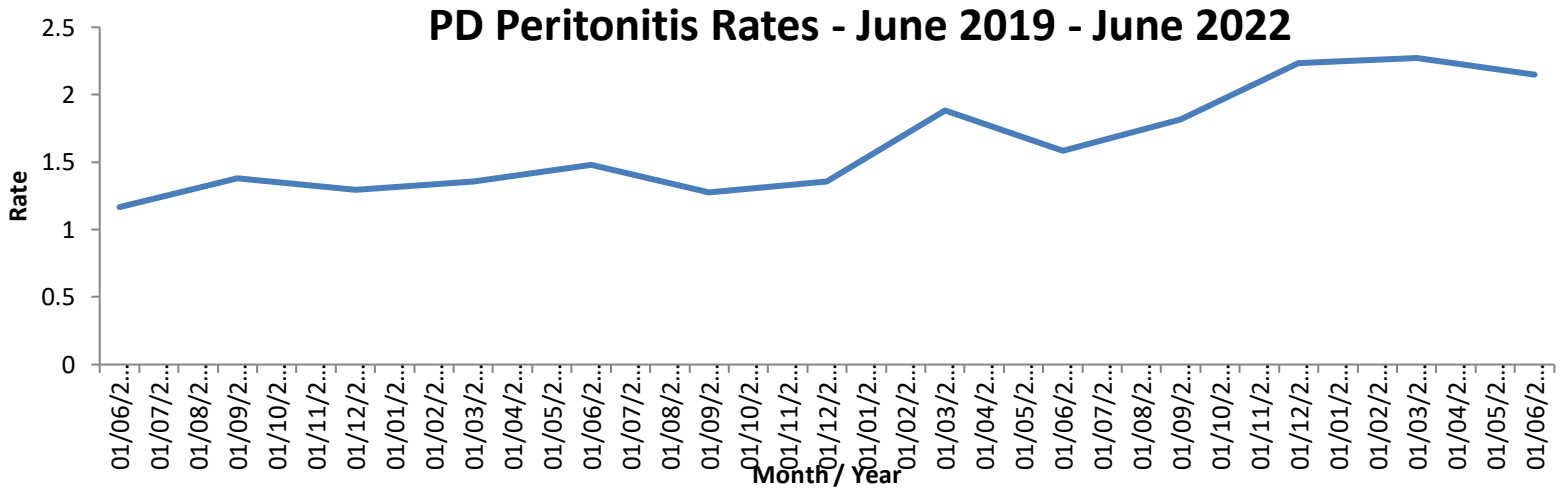
2022


PD Peritonitis Rates - June 2019 - June 2022
Rate
2.5
2
1.5
1
0.5
0
01/06/2...
01/07/2...
01/08/2...
01/09/2...
01/10/2...
01/11/2...
01/12/2...
01/01/2...
01/02/2...
01/03/2...
01/04/2...
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01/09/2...
01/10/2...
01/11/2...
01/12/2...
01/01/2...
01/02/2...
01/03/2...
01/04/2...
01/05/2...
01/06/2...
Month / Year

What our next steps and hopes are

- We feel demoralised
- Need to engage team
- Need to engage patients in refresher patient
- Staff recruitment
- SpR to take on additional project to look at data reporting

Queen Elizabeth Birmingham

KQuIP

QEH Birmingham-Peritonitis project

- Improvement team

Lavanya Kamesh, Hui Liew, Beth Renwick, Karen Simms, Ann O'Rourke

Project Aims

Peritonitis rate of 0.25 per patient year by October 2023

1) To harmonise and update patient training
2) Continuing patient education:

a) Reinstate post training and post peritonitis home visit

b) Reinstate patient education that focuses on reducing risk of peritonitis

bugs away day (at 6-8 weeks after starting on PD- combine with PET test)

refresher bar (during clinic visits)

Measurement

Outcome measures

- Peritonitis episodes / month
- Recurrent peritonitis episodes / month
- Peritonitis rate / quarter

Process measures

- See training record spreadsheet

Balancing measures

- Use staff education sessions to gauge impact on staffing time / get feedback from team on implementation

PDSA- Change ideas

- Harmonise and update training-

Updated training documents/ multiple nursing meetings

Visits to Baxter and Fresenius hubs- post training support

- Post training and post peritonitis home visits (traffic light system)

On & off due to staffing issues- will get better next month.

Currently, patients come to the PD unit for post training review

- Bugs away and refresher patient education-

Restarted in Jan 22. Continuing to invite

- RCA after peritonitis- Started in May
- Data collection across QEH/BHH

2022	January	February	March	April	May	June	July	August
Birmingham QEB								
Peritoneal Dialysis population (UHB)	190	187	188	181	181	184	182	
Peritonitis episodes	4	4	7	6	5	6	7	5
Exit site infection episodes	4	1	3	4	2	1	3	3
Peritonitis rate (last quarter)/patient year			0.29			0.31		

Month	Number of peritonitis episodes
Apr-21	1
May-21	9
Jun-21	5
Jul-21	4
Aug-21	4
Sep-21	7
Oct-21	3
Nov-21	5
Dec-21	5
Jan-22	4
Feb-22	4
Mar-22	7
	58

Nottingham children’s hospital

Nottingham Children's Hospital Peritonitis QI Project

Catrin Goodwin – Paediatric Clinical Nurse Specialist Dialysis

Nottingham Children's Hospital

EMEESY

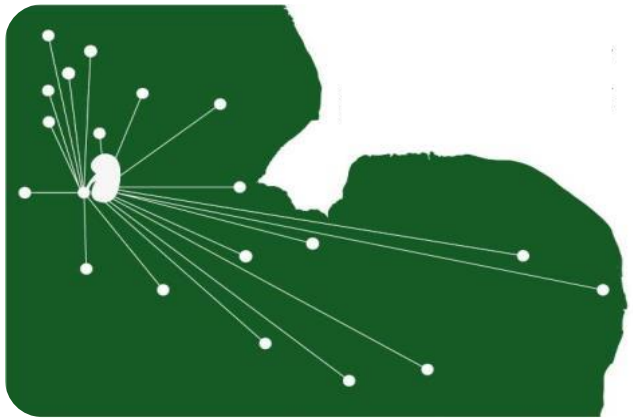
We Listen We Care

NHS Nottingham University Hospitals NHS Trust

Our Service

EMEESY

Children's Kidney Network
for the East Midlands, East of England and South Yorkshire



- Currently 17 patients on PD
  - 18 months to 17 years
  - Derby to Great Yarmouth

- 2 full time PD specialist nurses (1:10 patients)

Nottingham Children's Hospital

EMEESY

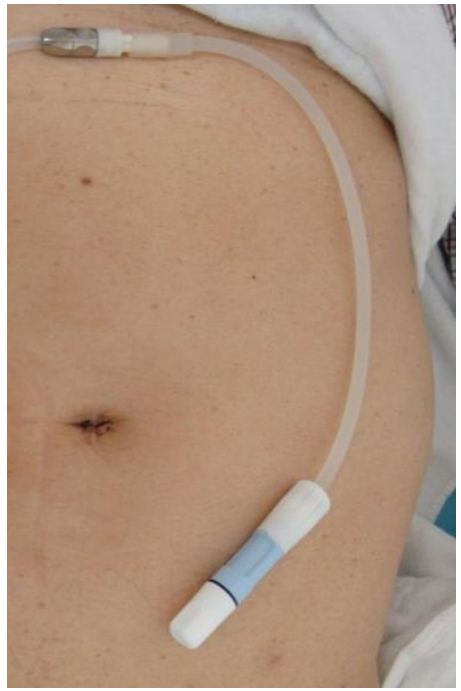
We Listen We Care

NHS Nottingham University Hospitals NHS Trust

PD training

- Admitted to renal ward in Nottingham for about one week and established on PD whilst completing a comprehensive training programme
- Home visit from PD specialist nurse on first night after discharge
- Monthly clinic visits with Paediatric Consultant Nephrologist and PD specialist nurse
- Individual refresher training after episodes of peritonitis

Risk factors



Peritonitis Rates

- Our current peritonitis rate is **0.7** episodes per patient year at risk (September 2021 - August 2022)
- Recommended peritonitis rates in children is less than **0.5** episodes per patient year at risk[1]
- ISPD guidelines 2022 now recommend peritonitis rates of less than **0.4** episodes per patient years in adults[2]

Where next?

- Build a team – PD specialist nurses, Consultant Nephrologist and GRID trainee
- Set an aim -to reduce the peritonitis rate to below **0.5** episodes per patient year at risk
- RCAs after each peritonitis episode
- Reintroduce 6 monthly follow up home visits to assess technique and refresh on teaching covered in initial training programme
- ?

References:

1. Woodrow, G., Fan, S.L., Reid, C. *et al.* Renal Association Clinical Practice Guideline on peritoneal dialysis in adults and children. *BMC Nephrol* **18**, 333 (2017). https://doi.org/10.1186/s12882-017-0687-2
2. Li, P. K.-T. *et al.* (2022) 'ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment', *Peritoneal Dialysis International*, 42(2), pp. 110–153. doi: 10.1177/08968608221080586.

Next steps

1. Test and review your PDSA cycles – look at data, discuss improvements that can be made to implementation, **document learning**
2. Plan next cycle
3. **Ask Catherine to help with documenting your PDSA cycles using Life QI software**
4. Patient involvement

Next meeting: To discuss face to face in November
Look out for monthly drop-ins!