Excellence in rural healthcare

Paediatric Six Month Review   March 2019

A review of the Children and Young Peoples Assessment Unit – Pilgrim Hospital

This report outlines the essential reconfiguration of Childrens and Young Person's Services at Pilgrim Hospital in August 2018 and the underpinning evidence. This report builds on monthly analysis and summarizes the findings. Finally the report concludes with recommendations.

Model Reviewed

Retaining, creating or closing stand-alone Children and Young Person's' Assessment Unit (CYPAU) Pilgrim Hospital

KEY DRIVERS FOR CHANGE

Workforce, cost and safety where the divers for this reconfiguration. The Royal College of Paediatrics and Child Health (RCPCH) was invited to review the Children and young people's services at the Pilgrim and Lincoln County Hospitals during a period of extreme challenge to the staffing of the service at the Pilgrim Hospital in Boston.
A culmination of factors over several years had led to a high number of medical vacancies at Tier 2 level. Combined with difficulties in recruiting consultants, changes to Tier 1 (junior) doctor deployment and children's nursing vacancies, the Trust identified several options one of which included closing the inpatient service for children and young people and a restricted maternity service from 1st August 2018 on the grounds of safety as skilled overnight medical cover could not be guaranteed for the inpatient and neonatal unit. A 12 hour CYPAU (Children and Young Person's Assessment Unit) was implemented.

Context

The interim model for children's & young person's services was introduced on the 6th August 2018 due to safety concerns arising from a culmination of factors over several years which led to a high number of medical vacancies at Tier 2 level. Combined with difficulties in recruiting consultants, changes to Tier 1 doctor deployment and children's nursing vacancies.

The evidence for change

Children and Young Persons (Paediatric) Units need to be staffed by consultant paediatricians and appropriate numbers of children's nurses, supported by junior staff. Constraints on the paediatric trained workforce where the key drivers for reconfiguration of the services at Pilgrim Hospital.

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Key Findings

There has been strong clinician, nursing and Executive leadership.

RCPCH recommendations have been addressed, and the actions are either in progress or have been completed with future proofing work to continue.

There are ongoing recruitment issues and therefore the service model, while developing well, will require full clinician and nursing establishment in order to be sustainable.

The Children and Young Person's Assessment Unit at Pilgrim is an appropriate service model.

The model proved safe for children at Pilgrim,

Reconfiguration (the 12 hour model) delivered good quality of care and has capacity to be replicated in Lincoln.

The availability of experienced medical and nursing staff is crucial, however the current balance can be changes with the development of new roles to both reduce the dependence on junior doctors and enhance the roles and career opportunities of the nursing cadre.

The balance of access, workforce, quality and finance has affected patients in different ways depending upon the level of risk and complexity of their condition.

There is a financial risk as the model is costly.

There are areas of uneven distribution and duplication but more data reviews are required.

The development and implementation of model required strong clinician, commissioner, regulator and patient engagement.

Evidence for Change

Quality

Failure to spot the severity of a child's illness because of lack of paediatric expertise and training is a key cause of avoidable child death (Pearson 2008).

The interim model for children's & young person's services was introduced on the 6th August 2018 due to safety concerns arising from a culmination of factors over several years which led to a high number of medical vacancies at Tier 2 (middle) level. Combined with difficulties in recruiting consultants, changes to Tier 1 doctor deployment and children's nursing vacancies exacerbated this problem.

The RCPCH undertook a full service review.

The first part of this report addresses The RCPCH immediate and enabling recommendations (Appendix 1 - note numbers relate to the RCPCH report)

Identify an experienced Project Manager to continue to work with the Clinical Leaders to lead and shape the vision and drive implementation and innovation for the maternity and paediatric teams going forward (5.8.7)

> The Trust had appointed a programme director by the time of the full RCPCH visit to manage this work and work closely with the leads and partners.

Develop a model and plan for a 'low acuity' overnight service at Pilgrim through development of hybrid Tier 2 working and explore with the medical and nursing teams a migration towards this arrangement (6.3.5)

> The model was reviewed and redesigned with support from NHSE subject matter experts and set up and running in August 2018.

Appoint a 'Project Board' from stakeholders or use the 'Transformation Board' to monitor progress with the vision and plan and provide external scrutiny (6.3.11)

> Risk Summits, Chaired by Dr Kathy McLean MD NHSI, and attended by representatives of the health community including HEEM, CQC and other key partners were hosted monthly. This was stood down in October 2018.

> The Trust initiated and maintain a weekly task and finish group up to February 2018 involving partners from the health community. Progress was monitored by the Trust Board.

> A Children and Young Peoples Transformation Board has been created chaired by the CCG Chief Nurse and SRO for children and maternity services. Within the Trust governance arrangements are now changing to report to the Children and Young Peoples Steering Group which in turn reports to the CCG led Transformation Board.

Actively promote a positive vision backed with a robust communications plan that drives forward change and develops confidence and commitment to a whole-county solution that embeds a sustainable service at Pilgrim (6.3.11)

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A communication plan is in development, the recent launch of the Transformation Board, coupled with the system wide Healthy Conversations, will support embedding the work to date.

Introduce a monitoring and outcome analysis process to review admissions transfers and outcomes to demonstrate the model is working safely at the current time and through transition to new ways of working (6.3.9)

The Trust has developed and launched a paediatric dashboard. This was shared with teams in February and will continue to be developed. The data from the dashboard has been incorporated in parts of this document.

Enabling actions

Adopt the standards for PAUs at both sites as an approach for managing ambulatory patients not requiring long term stays, with pathways of care and SoPs that focus on discharge and decision making in the ED and PAU and monitor length of stay and outcomes (6.4.2)

There are SOPs in place for Pilgrim Hospital and the service has developed close working relationships with the ED. At Lincoln County Hospital relationships between teams have also been developed and the team are working towards a CYPAU model go live in the first quarter of 2019/20.

Continue to support and audit use of the dedicated ambulance vehicle for safe transport of sick children and maternity patents who require transfer from Pilgrim (5.6.6)

This is ongoing and is discussed within this report. The Trust continue to monitor safe transfer.

Actively involve local user groups as well as children young people, parents and those from minority communities to "change the narrative" and improve engagement with the public, including development of written, web based and social media resources. (5.11.9)

The service and the Trust have actively engaged with the public. This is covered within the narrative of this review.

Expedite changes to the approach to recruitment including a refreshed and dynamic marketing approach (5.8.5).

The Trust has invested in designing new and dynamic ways to recruit. The team have reviewed adverts to ensure they are not only fit for purpose but enticing. The HR department have more recently employed a subject matter expert on recruitment, the service are working closely with HR in order to capture a wider market.

Focus on retention and development of existing staff through genuine involvement and listening and acting on their concerns (5.8.6)

There is good engagement between the senior leaders and the staff within the service. Ideas have been captured from them to improve the service. There is a questionnaire in circulation for staff to capture their experiences and drive further change as well as improve morale. This will be completed at the end of March and results will be available April 2019.

Nursing

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Recruit a Head of Nursing/ADN with experience of developing and modernising nursing services, to develop the children's nursing service at ULHT to meet the needs of children across Lincoln county (5.3.2)

The Trust has appointed an interim children's lead. There is now support, via NHSI, from a lead children's nurse who is supporting work for the Hidden child. More recently a Childrens lead nurse has been loaned on secondment to work with the team. A new Trustwide operating model has been designed and this will go live on the 1st April. Recruitment for a substantive lead paediatric nurse is ongoing.

Strengthen paediatric nursing competencies in ED and neonatal life support through advanced nursing roles to improve patient care and reduce the demand for medical intervention (5.3.4)

The neonatal nurse recruitment, training and competency has been very successful and we expect to be able to move from 29 week model to a 28 week model in March 2019, thereafter progressing to 27 weeks. The service has working with NHSE providing assurance on this. All neonatal nurses and staff complete a competency document.

The Trust has done much to support ED nursing competencies initially through the children's service improvement lead nurse for the hidden child and most recently in the secondment of a children's nurse who will work with ED and Paediatrics.

Develop a strategy for children's community nursing to reduce hospital attendance and increase engagement with the NHS through (5.3.13):

This work forms part of the children's and young person programme.

- **Expanding the CCN Team**

- **Enabling a seven-day service across the county**

- **Enable early discharge from the Emergency Department and PAUs.**

- **Review referral process to enable direct GP access to community nursing**

**Consider recruiting specialist nurses for long term health disorders such as asthma and
epilepsy to support the medical team and promote self-management of conditions from an early age. (5.3.9)**

The requirement for these posts is described in our operating model and business cases are underway for approval.

Ensure the practice development nurse role is clear to promote an effective impact on recruitment and retention of nurses and good working relationships between the clinical areas and the university. (5.3.4)

Recently appointed clinical educator (PDN). The University of Lincoln has been approved for Paediatric Childrens Nurse Course following a quality assurance visit.

Develop nurse led clinics to manage children attending the ward following discharge and to support medical colleagues in managing children with long term conditions (5.3.9)

This work to be addressed via the Paediatric Programme.

Medical Staffing

The recommendations below have been captured in the narrative of the review.

Continue to support MTI recruitment for a steady supply of Tier 2 paediatricians. (5.4.12)

Expedite changes to the approach to recruitment including a refreshed and dynamic marketing approach. (5.8.5)

Explore the benefits of developing advanced practice children's nurses and review how these operate in other services, with a view to establishing the role at both sites to support the medical rotas. (5.4.15)

Conduct an audit review of the quality and implications of the locum provision including incident analysis and risk assessment. (5.4.10)

Work closely with HEEM to Increase the profile for training and compliance with requirements to enable continuing rotation of Tier 1 doctors through Pilgrim (5.4.21)

Rethink the 'offer' for trainees, increase the profile of training through websites and promotional materials to attract more trainees to Lincolnshire's hospitals (5.4.21)

(5.4.21)

Other recommendations

A focus on Quality Improvement, including working differently, learning from findings and shared whole-team goals should be implemented as soon as possible (5.7.4)

There is evidence within the narrative of this document of quality improvement and whole team working. The new structure for the operating model will ensure greater grip, control and accountability around quality improvement.

Work with the CCGs to reconsider the future of Pilgrim and opportunities to expand rather than contract the service within the STP. (6.1.1)

The service will report via its Childrens and young person's steering group to the system Childrens and Young Persons Transformation Group.

Retain and develop a day surgery service at the Pilgrim site with a catchment across the Trust's footprint. (6.4.14)

There is further work to be done to develop the surgical pathways and access. Pilgrim Hospital reports through the GIRFT group and the Childrens and Young People Steering Group. CYPAU is working up a paediatric pre-op basement clinic on the ward. This will support driving change and improving relations and understanding between the paediatric and surgical teams to ensure the needs of the child are met.

Learning from incidents

The Datix system has been configured to include a new mandatory field relating to the new service model. Each incident can be identified readily and managed appropriately. Incidents are being reviewed at the operational task and finish group. From August 2018 there is a marked increase in incidents on the Pilgrim site. Table demonstrates the increase themed is with regard to patients who have had a length of stay beyond 12 hours which is in line with our SOP. All incidents when a patient's stay on the CYPAU is over 12 hours are logged on the system for analysis and action. The numbers are also a good indication that incident reporting and addressing issues has become part of the culture of the CYPAU at Pilgrim. There are no significant changes in incident reporting at Lincoln. As the model has embedded both sites have seen a small fall in incidents since January. No incidents leading to harm due to the new model have been recorded.

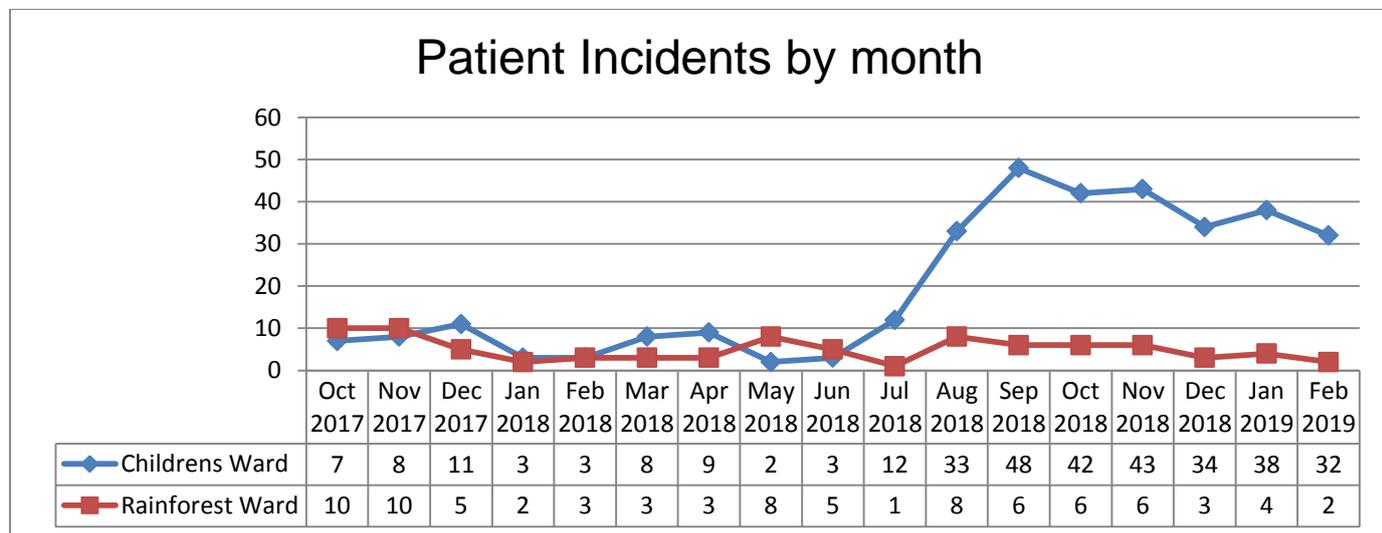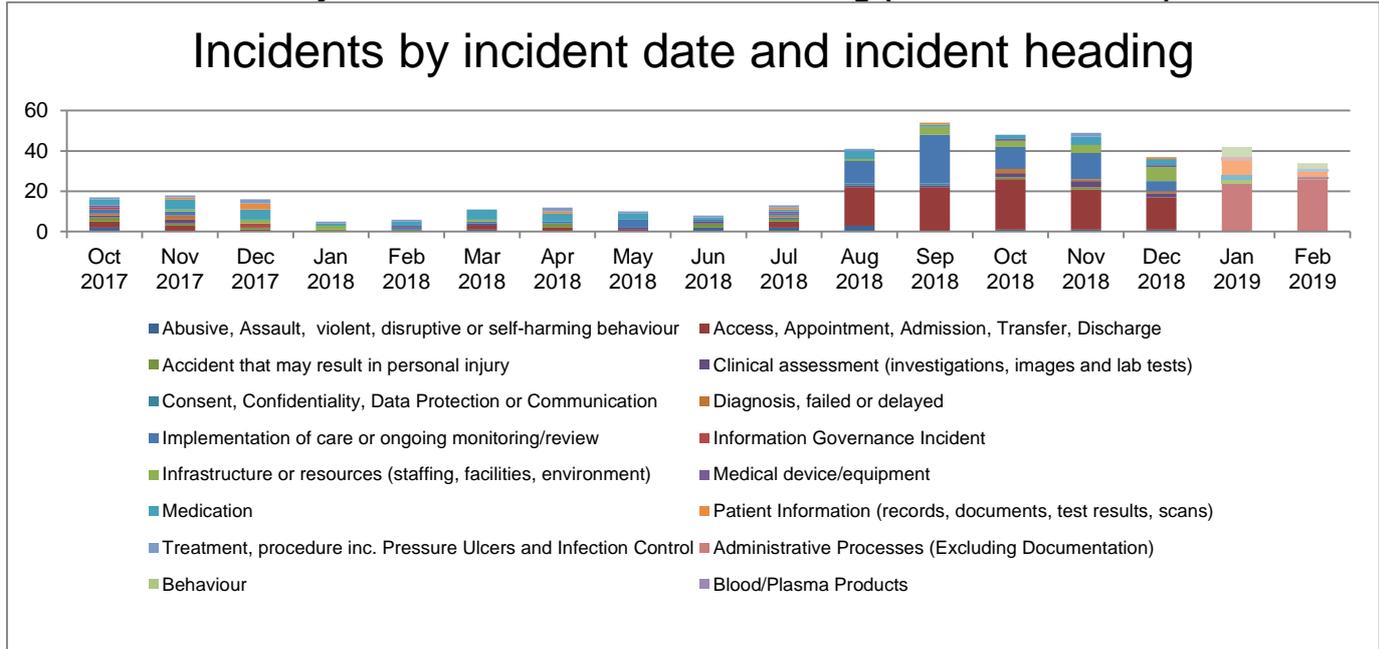**Table 1: Patient Incidents by Month (Data Source Datix)**

Patient Incidents by month

	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019
Childrens Ward	7	8	11	3	3	8	9	2	3	12	33	48	42	43	34	38	32
Rainforest Ward	10	10	5	2	3	3	3	8	5	1	8	6	6	6	3	4	2

Table 2 : Incidents by incident date and incident heading (Data source Datix)

Incidents by incident date and incident heading

Legend:
- Abusive, Assault, violent, disruptive or self-harming behaviour
- Access, Appointment, Admission, Transfer, Discharge
- Accident that may result in personal injury
- Clinical assessment (investigations, images and lab tests)
- Consent, Confidentiality, Data Protection or Communication
- Diagnosis, failed or delayed
- Implementation of care or ongoing monitoring/review
- Information Governance Incident
- Infrastructure or resources (staffing, facilities, environment)
- Medical device/equipment
- Medication
- Patient Information (records, documents, test results, scans)
- Treatment, procedure inc. Pressure Ulcers and Infection Control
- Administrative Processes (Excluding Documentation)
- Behaviour
- Blood/Plasma Products

Workforce

Medical Staff

The Pan Trust Head of Service for Paediatrics, Dr Rao Kollipara and Head of Service for Paediatrics Pilgrim, Dr Ajay Reddy have led the changes. The recruitment drive and activity have continued at pace throughout last six month period. The requirement for a full complement of consultants at Pilgrim for Paediatrics has not changed and remains at 8 x whole time equivalents. The service currently has 4 x full time consultants and 2 x agency locums, making a complement of 6 x whole time equivalents.

The middle grade workforce at Pilgrim remains heavily dependent on locum and agency doctors to provide weekend and night shifts. To assist in the mitigation of this risk, an additional middle grade doctor to support the rota has been established. There is now one substantive middle grade doctor to complement the six agency locum middle grade doctors within the current rota. The medical staff rota, with named doctors on each shift, is in place and under constant review with regard to fill rates as the proportion of locum and agency staff required to sustain the service remains high. The rota remains, as in previous months, with Tier 1 doctors on a 1:16 and Tier 2 (middle grade) doctors on a on a 1:10 on call.

The international recruitment drive that commenced in November 2017 delivered and came to fruition for August 2018. Following an initial period of induction and supervision these doctors are playing an increasingly important part in the service. Inevitably some of these doctors may fail to progress and others will move on to new opportunities, so the Division will continue to recruit through this process. The Division has also offered other incentives around training and personal development. A recent successful outcome has resulted from discussions with HEEM to allow juniors to undertake additional locum work to fill some of the gaps in the medical rota.

Table 3: Consultant and Middle Grade Establishment (Data Source ESR)

	Establishment		Substantive in post		Locums in place	
	LCH	PHB	LCH	PHB	LCH	PHB
Consultants	8.0	8.0	6.0	4.0	0	2.0
Middle Grade	10	6.0	9	1.0	1	6.0

Nursing Staff

A robust highly skilled staffing model is also required for nursing. In the last six months much as been done to improve their skill set. The lead Childrens' matron, Deborah Flatman, who recently stepped down requires a special mention and commendation as she has held two roles (acute and community) across paediatrics. As a result of focus on strong recruitment and competency, there are refreshed recruitment materials and an in-house programme for Advanced Paediatric Nurse Practitioners. Recruitment continues for Advanced Nurse Practitioners, a clinical educator and for band 5 registered children's nurses.

The Trust has strong paediatric ward manager leadership at both Lincoln and Pilgrim who have worked hard to maintain good morale through this difficult period and ensure care is safe across the sites. The ward managers have engaged well with the changes and are dedicated to driving continuous improvement. The interim matron role held by Helen Lythgoe has been recruited into. The Childrens lead nurse role is key to delivery within the new operating model and this is expected to be filled in the new financial year. This will leave the Nursing workforce in a more stable position to address continued challenges.

Table 4: Nursing Establishment (Data Source ESR)

CYPAU NURSING STAFF SUMMARY							
Band	Registered Nursing Establishment	RN In post	Block Agency	RN In Post But Unavailable to work on ward (includes sickness / absence)	WTE Long-Term Sickness / Absence	Current WTE Available to Work minus sickness/ Absence	Current Vacancies
6	5.2 (INC uplift)	4.5wte	0	1.0wte	0.0wte	3.5 wte	0.9wte
5	28.71wte (inc HDU)	RN(C) 11.04 wte	2.0 wte	1.6wte	1.4wte	RNC 8.04wte	13.43 wte
		RN(A) 4.24 wte	0	1.64 wte	0	RN 2.6 wte	
Total	33.91	19.78wte	2.0wte	4.24wte	1.4wte	16.14 wte incl agency	14.33wte

RAINFOREST WARD NURSING STAFF SUMMARY							
Band	Registered Nursing Establishment	RN In post	Block Agency	RN In Post But Unavailable to work on ward (includes sickness / absence)	WTE Long-Term Sickness / Absence	Current WTE Available to Work minus sickness/ Absence	Current Vacancies
6	4.73wte (uplift to 5.48wte)	5.48 wte	0	0	0	5.48wte	0
5	25.68wte	11.14 wte	0	0.64wte (Maternity leave)	0.64wte (Maternity leave)	11.14wte	14.54wte
Agency			6.0wte			6.0wte	
Total	31.16wte	16.62 wte	0	0.64wte	0.64wte	18.62wte (plus 6.0wte agency =24.62wte)	14.54wte

SAFARI WARD NURSING STAFF SUMMARY							
Band	Registered Nursing Establishment	RN In post	Block Agency	RN In Post But Unavailable to work on ward (includes sickness / absence)	WTE Long-Term Sickness / Absence	Current WTE Available to Work minus sickness/ Absence	Current Vacancies
6	1.8wte	1.4wte	0	0	0		0.4wte
5	3.73wte	3.57wte	0	0	0		0.16wte
Agency			0				
Total	5.53wte	4.97wte					0.56wte

The Trust welcomes the news that Lincoln University has been given approval to deliver paediatric nurse training following a recent quality assurance visit to the Trust.

The latest HR scorecard for Child Health shows an improvement of 1% in vacancy rate and turnover. There has also been a reduction in both the overall and short term sickness rates.

Ongoing concerns

The Tier 2 rotation of doctors to Lincoln reduced in February 2019 putting additional pressure on the staff and service; consequently additional agency staff have been required. Whilst an active plan remains in place, the Consultants remain very concerned over the impact on the service of the dependence on short term locum medical staff in terms of resilience and safety, particularly at the middle grade level..

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An agreement has been reached to increase the consultant establishment by two to facilitate the introduction of "one team – two sites" in paediatrics commencing with the new arrangements for hot weeks in March 2019. This will be monitored for impact on staff and service.

While the recruitment drive for nursing continues to yield success the recruitment of a Childrens Lead Nurse is crucial.

The staff morale will need to be continually monitored until the realisation of all posts and process are embedded. Following the recent receipt of the NHS Staff Survey work is in train via the Trust Human Resources Business Partners to address priority issues with the locality data (WCYP), run focus groups with staff and set up a mini pulse survey to measure progress and feed back into the Specialities.

Finance

The interim model has created a significant adverse financial impact on the Division and the Trust. The financial impact and cost pressures of the new service model is summarised below for the period of April to February 2018/19.

The Financial appraisal has been broken down into two main periods to represent the change in service provision over time;

- May 2018 to July 2018 the period prior to going live with the new service model,

- August to February 2019, the introduction of the new model,

Type	2018/19 Financial Appraisal								
	April to July 2018	August	September	October	November	December	January	February	Total
Income	0	13,498	13,498	13,498	13,498	13,498	13,498	13,498	**94,484**
Pay	326,675	139,268	95,676	138,238	128,731	149,451	98,139	158,175	**1,234,353**
Non Pay	0	119,591	114,881	98,288	115,825	112,208	103,527	94,620	**758,940**
Total Expenditure	**326,675**	**258,859**	**210,557**	**236,526**	**244,556**	**261,659**	**201,665**	**252,795**	**1,993,293**
Total Financial Impact (surplus)/ Cost pressure	326,675	272,357	224,055	250,023	258,053	275,157	215,163	266,293	2,087,777

The total impact of the new service model for the financial year until February 2019 is £2.1m.

A further breakdown of the impact on income and cost pressures is illustrated further in figure 2 below;

Type	Description	2018/19 Financial Appraisal								
		April to July 2018	August	September	October	November	December	January	February	Total
Income	A&E	0	13,498	13,498	13,498	13,498	13,498	13,498	13,498	**94,484**
Income	Grand Total	0	13,498	13,498	13,498	13,498	13,498	13,498	13,498	**94,484**
Pay	Project Management	40,950	25,740	18,720	7,947	10,483	6,290	7,967	6,290	**124,386**
Pay	Consultants	192,400	30,600	1,400	54,596	46,106	37,211	-10,161	42,812	**394,964**
Pay	Medical staffing	56,754	54,295	48,112	53,338	47,078	75,860	73,452	76,730	**485,618**
Pay	Nursing and Midwifery	36,571	28,633	27,444	22,357	25,064	30,091	26,881	32,344	**229,385**
										0
Pay	Grand Total	326,675	139,268	95,676	138,238	128,731	149,451	98,139	158,175	**1,234,353**
		0					0			**0**
Non Pay	Ambulance	0	119,591	105,032	96,713	94,393	99,832	96,713	87,353	**699,628**
Non Pay	Travel & Incentive Accom payments	0	0	1,576	1,576	1,576	1,576	1,576	1,576	**9,454**
Non Pay	Recruitment Expenses	0	0	8,273	0	19,856	10,800	5,239	5,691	**49,858**
										0
Non Pay	Grand Total	0	119,591	114,881	98,288	115,825	112,208	103,527	94,620	**758,940**
Total Expenditure		326,675	258,859	210,557	236,526	244,556	261,659	201,665	252,795	**1,993,293**
Total Financial Impact (surplus)/ Cost pressure		326,675	272,357	224,055	250,023	258,053	275,157	215,163	266,293	**2,087,777**

Income

The assumption for Income in A&E had been that it would decrease by 12.26% based on the repatriation information as described in previous papers, the impact is centred around ambulance 999 and police attendances. The pathways in place for the new model include an ambulance stop and stabilise process which would mitigate some of this loss of activity.

During the six months there has been no material movement in the Paediatric income to show any other loss in relation to the new model.

Pay costs have Included Project Management costs, Consultant and medical staffing increases due to using agency premiums and extra duty to cover all rotas, this has been negated by current funding available for substantive vacancies.

The junior rotas include three International recruitment posts that were supernumery for three weeks followed by a period of work on the junior medical (Tier 1) rota for maximum of six months; these doctors have now moved to the middle grade rota. The costs also include the agreement with the Deanery to operate junior posts based at Lincoln and transfer them daily to Pilgrim; additional agency cover has been calculated on top of substantive complement to cover the travel time.

Nursing and midwifery costs illustrate the uplift from 19 to 24 beds on Rainforest ward at Lincoln, based on agency premiums. Ward 4A at Pilgrim retains the same staffing levels for the interim to allow for the transition and maintain quality of care; however, this level of staffing will be reviewed for future staffing needs.

Non-pay includes the costs for a dedicated ambulance transport service this initially was based on 2 x 24 hours a day, split over two 12hr shifts, but was later decreased taking into consideration the of safety for patients, to 1 x ambulance, 24 hours a day and then an additional ambulance for further a 6-hour period to cover peaks times.

The forecast position for the end of March 2019 is financial impact of £2.3m

Access

The model implemented in August 2018 at Pilgrim is a 12 hour length of stay model. Children admitted to the unit would be assessed, treated, stabilised and discharged. Children requiring care beyond 12 hours are transferred to the Lincoln Site or to another acute trust. A full and complete standard operating policy is in place.

Since the introduction of the CYPAU in August 2018 at the Pilgrim hospital there has been a significant improvement in throughput coupled with an improving patient experience. During the first twenty six weeks of operation of the new service model, 1,869 patients have been assessed and treated in the CYPAU with 203 patients transferred to other units. This suggests that, while there is not a requirement for an inpatient ward at Pilgrim, there is a requirement for a CYPAU due to rurality and distance between sites.

Table 5 : Referral Source (Data Source Paediatric Dashboard)

Referral Source	Number of Referrals
Emergency Department	479
Direct from General Practitioner	572
Direct Access (those with long term direct access)	64
Midwife (mainly babies with prolonged jaundice)	31
Community Children's Nurses	1
Out of Hours Primary Care	43
Direct from the Urgent Care Centre	19

During the six months our review showed that there have been a number of occasions where children have stayed beyond 12 hours. Any children staying beyond this time where assessed by the Consultant, an agreement is reached that it was safe to have the child remain on the ward in the best interest of the child. Consultant clinical judgement, and best practice, have highlighted that a number of children do need to stay beyond 12 hours, for example those with high dependency needs such as high flow respiratory oxygen. The 12 hour standard has shown it is appropriate for the acuity of the Trusts patients. The system of open access for some children with ongoing health needs has continued at Pilgrim hospital under the interim service model. Whilst it has been necessary for some patients to be transferred to Lincoln hospital if they require a prolonged length of stay, access to the staff and support remains freely available through the pre-existing channels.

Analysis of the length of stay of 80 patients on Rainforest Ward following transfer from the CYPAU at Pilgrim Hospital shows that over 85% of those patients had a further 10 hours or more as an inpatient suggesting that referral and transfer was appropriate.

Table 6 : Length of Stay at Lincoln Post Transfer since implementation of model (Data Source Paediatric Dashboard)

Length of stay at Lincoln post-transfer

Hours on Rainforest Post Transfer

Emergency Admissions

The service have implemented a new paediatric dashboard which will support driving improvement going forward. To date there has been little interrogation of the data due to embedding the model. It is recommended that data review and interrogation becomes business as usual.

The average conversion of attendances at Lincoln from October 2017 to the first week of March 2018 to inpatients is 17.5%

The average conversion of attendances at Pilgrim from October 2018 to the first week of March 2019 to inpatients is 25%

Pilgrim

For the winter period October 2017 to first week in March 2018 the average conversion to admission where 18%,

ED attendances for this period where 2996

For the winter period October 2018 to the first week in March 2019 the average conversion to admissions is 37%,

ED attendances for this period where 2200 (796 difference)

More work is required to understand the cause of higher numbers of admissions to Pilgrim considering the decrease in attendances, the enhanced acute service with additional ED support may have resulted in a greater 'pull' from ED at Pilgrim.

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Lincoln

For the winter period October 2017 to first week in March 2018 the average conversion to admission was 19%,

ED attendances for this period where 4276

For the winter period October 2018 to the first week in March 2019 the average conversion to admission is 18%,

ED attendances for this period where 5301(1025 difference)

A postcode review for attendees should be carried out to see if the change in model at Pilgrim has influenced an increase at Lincoln.

Length of Stay

The graphs below show the Length of Stay from October 2017 through to the first week of March 2019 for Pilgrim and Lincoln. While admissions to CYPAU Pilgrim are higher and this needs further review, the length of stay profile for CYPAU has significantly reduced where, as expected, there has been minimum impact at Lincoln. Where there is an increase this is also mirrored at Pilgrim and will be predominantly due to winter pressures. This suggests that the model is working and both sites have seen a reduction in latter months in length of stay.

Table 7 : CYPAU Average Length of Stay in Hours (Data Source – Paediatric Dashboard)
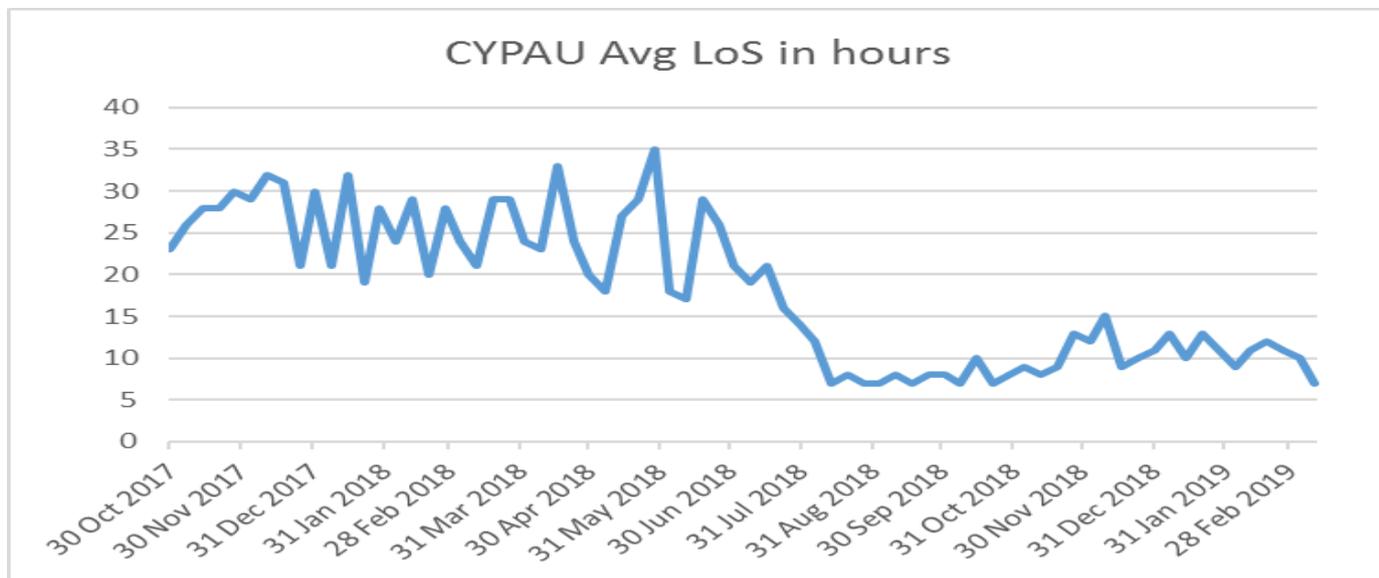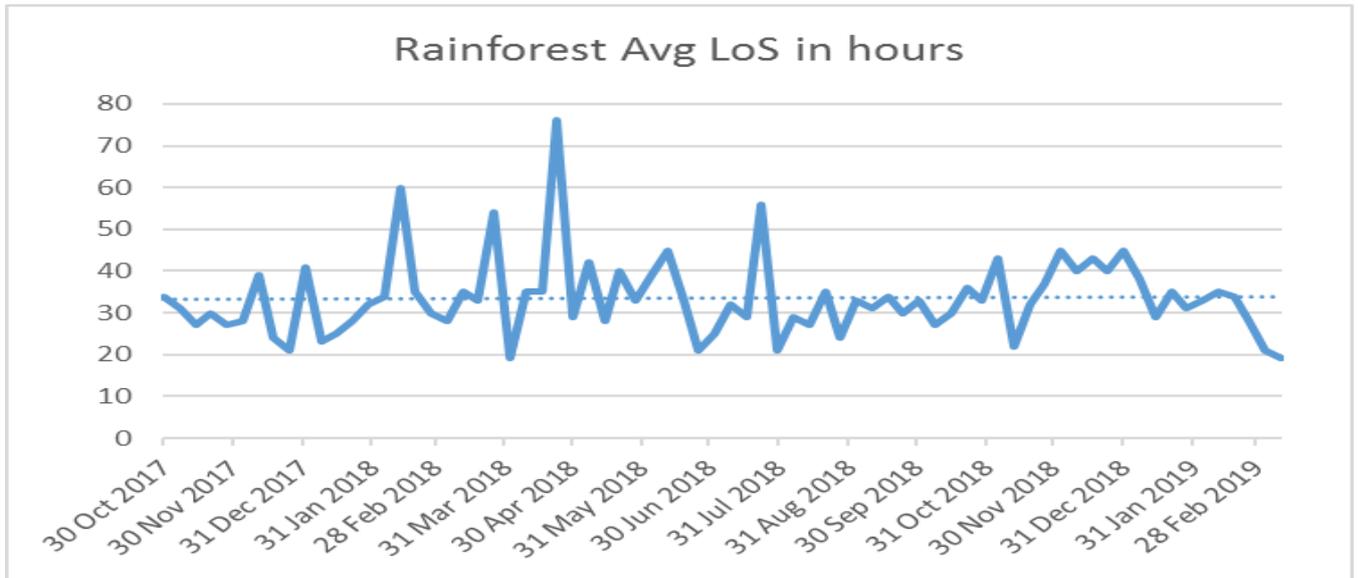
Table 8 : Rainforest Average Length of Stay in Hours (Data Source – Paediatric Dashboard)


Transfer of Patients

The Trust deployed a dedicated ambulance service to ensure that patients reaching the 12 hour standard or requiring urgent emergency care could be transferred quickly and safely. Since the introduction of the dedicated ambulance service there have been no instances where an ambulance has not been available to meet the needs of the service. The maximum number of children transferred to Lincoln on any single day has been three. The original contract was to provide two ambulances on site at Pilgrim Hospital with a third on standby. This was subsequently reduced to one ambulance on permanent standby and a second for peak periods. It is recommended that this remains in place.

Table 8 : CYPAU Transfers (Data Source – Paediatric Dashboard)
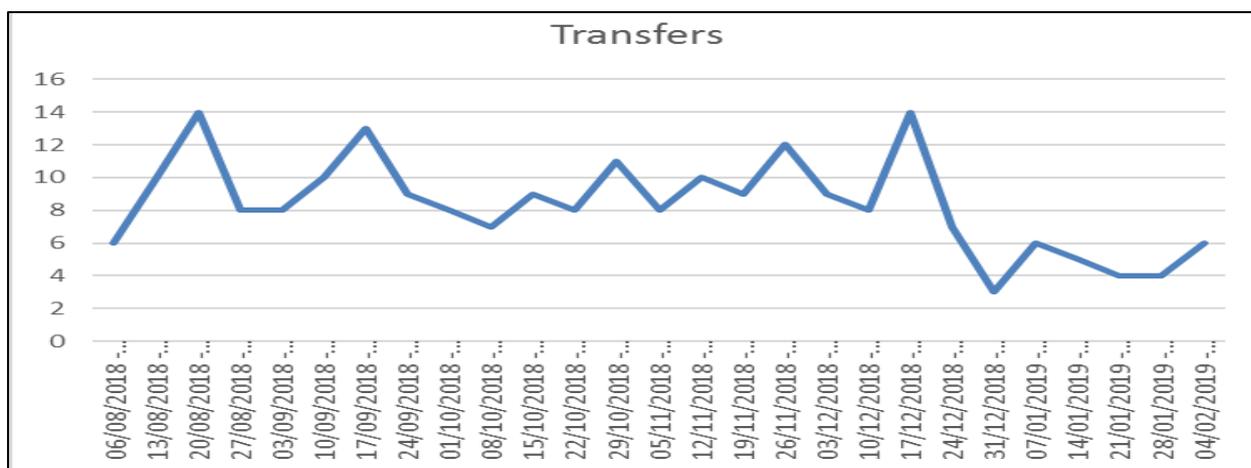
53 children were transferred to other inpatient units rather than Rainforest Ward. 21 were to specialist centres for ongoing treatment (as per agreed protocols), 9 were transferred to ward M1 at Pilgrim, 21 because beds were not available at Lincoln and 2 were repatriation to home. The ambulance resource continues to provide the ultra-safe provision for patients, whereby transfers required can be completed in the shortest possible timeframe. No incidents have been reported as a result of delays in the transfer of patients under these arrangements.

Table 9 : CYPAU Receiving Units (Data Source – Paediatric Dashboard)
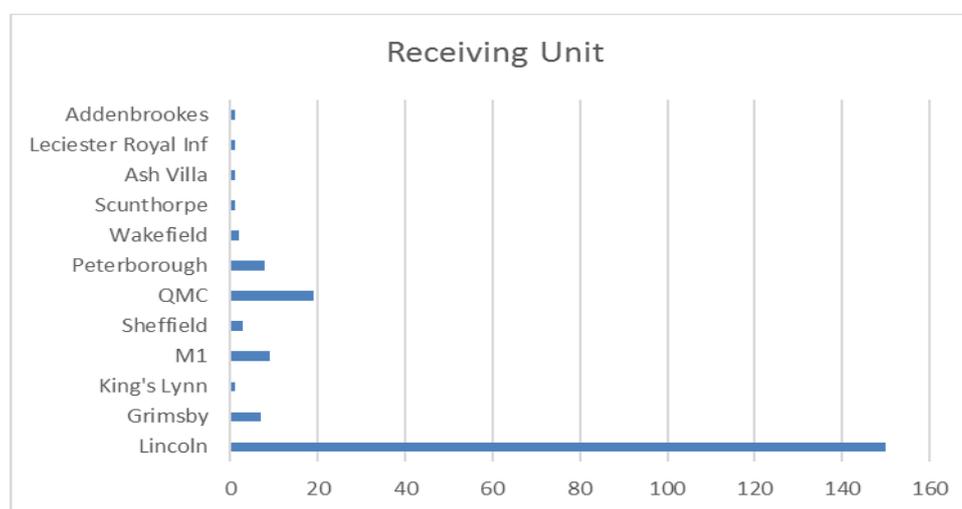
It is recommended that the service continues to monitor activity and use the new paediatric dashboard to drive continuous improvement.

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Patient and Public Engagement

Since the introduction of the interim model, the Trust and service have carried out extensive staff and public engagement. This helps to understand people's experiences of using the service, concerns, and helps to mitigate any concerns where possible, whilst using the findings to inform future service design.

A survey has been completed which attracted 805 responses, and since August 2018 the Trust and service have facilitated five public engagement events at Pilgrim hospital, attracting over 100 attendees in total.

The service has undertaken face to face engagement at 24 different groups in the Boston and Skegness areas, including parents and toddler groups and children's centres.

Findings and opinion on the provision of services vary widely according to geography, age and demographics of the patients. The general consensus has been that parents want assurance that emergency children's services will remain as close to home as possible, but acknowledge that they may sometimes have to travel for specialist/ outpatient services.

As a result of the findings from public engagement, the service leads and team have worked with our partners, staff and patients to look at specific issues including: open access families, transport for transfer of patients, clarity around service specifics including length of stay on the CYPAU and additional support for families whose children are transferred.

Conclusion

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The interim service model has delivered a safe service for the children's population of Lincolnshire. However recruiting children's doctors and nurses remains a constraint and an area of concern for the service and the Trust.

The clinical leadership remains important factor and leaders should be supported to continue to embed the model of one team two sites.

The acuity of patients that are admitted to the CYPAU are not consistent with a low acuity model and this requires ongoing monitoring and refinement.

The interim service model is now at the stage where it can be incorporated into a larger children's programme of work to ensure it develops as part of an integrated service for children for the whole population of Lincolnshire.

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Recommendations

The interim service model provides a safe service and should continue.

The paediatric dashboard should be analysed to inform the drive for continuous improvement

The arrangements for patient transfer should be reviewed to identifying the most cost effective safe service

Implement a CYPAU 12 hour model at Lincoln.

Continue to use the RCPCH recommendations as guide to developing the definitive service model.

Develop the rhythm of the Children's and Young Person's Steering Group and the Children and Young Person's Transformation programme Board to develop an integrated Lincolnshire wide service with health system partners

As the service is now stable monitoring should move to quarterly through the Quality Governance committee.

Appendix 1: Activity figures

Week commencing	Accident and emergency								Ward activity					
	Lincoln County Hospital				Boston Pilgrim Hospital				Lincoln County Hospital				Boston Pilgrim Hospital	
	Attendances			Stats	Attendances			Stats	Rainforest		Safari		Children's ward	
	Total	AM	PM	% became inpatient	Total	AM	PM	% became inpatient	Admissions	Discharges.	Admissions	Discharges	Admissions	Discharges
30 Oct 2017	130	39	91	17.69	83	27	56	15.66	71	68	51	51	52	60
6 Nov 2017	238	82	156	14.29	181	48	133	20.99	65	68	54	54	67	55
13 Nov 2017	256	74	182	20.31	173	42	131	16.18	88	89	54	54	63	67
20 Nov 2017	302	88	214	19.54	187	58	129	13.37	86	80	67	67	62	67
27 Nov 2017	284	84	200	17.25	167	49	118	19.76	86	86	56	56	64	62
4 Dec 2017	257	90	167	25.29	164	43	121	18.29	93	97	56	56	62	61
11 Dec 2017	245	75	170	17.96	169	47	122	23.08	77	77	51	51	70	65
18 Dec 2017	209	38	171	21.53	151	37	114	15.23	68	75	51	51	48	53
25 Dec 2017	213	70	143	21.13	170	59	111	17.65	78	72	22	22	45	51
1 Jan 2018	184	54	130	17.93	143	34	109	25.17	59	55	33	33	62	56
8 Jan 2018	201	59	142	25.87	147	47	100	19.05	79	77	38	38	72	74
15 Jan 2018	222	76	146	16.22	172	51	121	17.44	74	84	44	44	53	49
22 Jan 2018	209	64	145	24.4	164	44	120	20.12	95	90	58	58	63	64
29 Jan 2018	207	66	141	21.74	165	41	124	16.36	75	76	42	42	59	62
5 Feb 2018	246	68	178	19.11	149	39	110	24.83	70	71	60	60	64	70
12 Feb 2018	204	56	148	19.12	152	30	122	17.76	74	69	48	48	72	62
19 Feb 2018	249	59	190	16.47	153	40	113	18.95	73	70	48	48	44	50
26 Feb 2018	176	45	131	18.75	123	28	95	20.33	54	63	29	29	40	41
5 Mar 2018	244	66	178	18.44	183	55	128	20.22	78	76	42	42	43	40
12 Mar 2018	277	85	192	15.88	210	65	145	13.81	77	76	49	49	38	38
19 Mar 2018	267	77	190	14.23	185	46	139	17.3	68	63	35	35	40	42
26 Mar 2018	282	88	194	12.06	184	54	130	13.04	68	76	44	44	35	35

2 Apr 2018	228	65	163	17.54	183	48	135	19.67	62	62	32	32	46	46
9 Apr 2018	199	43	156	17.09	137	41	96	18.98	66	59	48	48	29	31
16 Apr 2018	284	78	206	17.25	186	53	133	15.59	66	68	45	45	42	39
23 Apr 2018	282	85	197	15.25	199	56	143	12.06	58	57	53	53	42	41
30 Apr 2018	246	63	183	13.82	200	53	147	13	58	60	44	44	42	43
7 May 2018	294	76	218	15.31	213	64	149	19.72	62	61	39	39	49	50
14 May 2018	308	85	223	12.34	207	50	157	20.77	66	62	42	42	54	57
21 May 2018	267	76	191	16.48	177	44	133	12.99	60	63	48	48	34	30
28 May 2018	234	50	184	17.95	160	34	126	14.38	62	66	34	34	42	44
4 Jun 2018	279	85	194	12.9	159	36	123	14.47	69	63	47	47	43	44
11 Jun 2018	320	88	232	12.5	178	54	124	19.1	57	56	35	35	61	58
18 Jun 2018	291	84	207	12.71	196	53	143	20.41	56	58	48	48	66	63
25 Jun 2018	267	85	182	14.98	186	50	136	15.05	69	78	49	49	47	47
2 Jul 2018	263	77	186	13.69	201	49	152	15.92	63	62	51	51	52	56
9 Jul 2018	283	82	201	9.89	205	50	155	18.05	64	60	41	41	54	52
16 Jul 2018	293	73	220	16.04	206	49	157	18.45	67	64	37	37	61	60
23 Jul 2018	238	66	172	15.55	169	34	135	24.26	60	64	42	42	51	58
30 Jul 2018	208	48	160	13.94	147	31	116	26.53	52	54	37	37	59	57
6 Aug 2018	176	41	135	15.34	145	39	106	18.62	58	60	32	32	40	42
13 Aug 2018	177	42	135	17.51	140	35	105	28.57	62	54	36	36	54	55
20 Aug 2018	203	53	150	18.23	148	35	113	26.35	80	79	24	24	53	52
27 Aug 2018	220	56	164	20	136	33	103	17.65	69	80	36	36	59	56
3 Sep 2018	214	54	160	23.36	132	39	93	26.52	70	63	33	33	64	66
10 Sep 2018	245	62	183	22.86	180	36	144	26.11	91	89	48	48	78	74
17 Sep 2018	259	74	185	19.31	177	43	134	18.64	77	79	43	43	76	80
24 Sep 2018	302	86	216	15.89	101	28	73	32.67	85	82	40	40	63	63
1 Oct 2018	265	69	196	14.72	117	34	83	30.77	72	74	36	36	55	57
8 Oct 2018	261	89	172	19.16	118	21	97	33.9	79	82	36	36	83	82

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15 Oct 2018	285	73	212	15.09	111	40	71	33.33	81	78	30	30	66	66
22 Oct 2018	220	58	162	19.55	90	31	59	41.11	79	77	49	49	80	81
29 Oct 2018	229	54	175	15.72	118	40	78	33.05	70	77	36	36	73	70
5 Nov 2018	233	57	176	16.31	120	34	86	28.33	82	70	48	48	64	63
12 Nov 2018	283	66	217	22.26	121	43	78	35.54	98	102	54	54	104	105
19 Nov 2018	303	88	215	19.14	136	38	98	41.91	100	99	58	58	87	87
26 Nov 2018	330	100	230	20.91	145	46	99	35.86	87	85	53	53	100	97
3 Dec 2018	313	84	229	15.97	152	54	98	40.79	69	70	49	48	103	105
10 Dec 2018	282	87	195	18.79	123	32	91	35.77	75	76	36	37	73	72
17 Dec 2018	263	78	185	22.05	113	26	87	49.56	90	93	48	48	99	100
24 Dec 2018	255	81	174	17.25	95	32	63	42.11	76	79	19	19	82	80
31 Dec 2018	232	67	165	21.12	89	16	73	39.33	70	69	23	23	67	69
7 Jan 2019	212	68	144	16.04	101	33	68	37.62	63	60	37	37	68	68
14 Jan 2019	252	85	167	16.67	120	35	85	35.83	64	63	39	39	91	92
21 Jan 2019	281	85	196	17.44	118	35	83	41.53	82	86	41	41	101	95
28 Jan 2019	281	96	185	16.73	77	22	55	41.56	75	75	46	46	72	78
4 Feb 2019	276	69	207	15.58	115	22	93	39.13	82	80	39	39	97	97
11 Feb 2019	321	104	217	15.26	111	29	82	41.44	85	79	51	51	88	87
18 Feb 2019	242	67	175	18.6	96	14	82	34.38	80	83	43	43	74	72
25 Feb 2019	259	83	176	18.53	100	27	73	31	86	90	42	42	75	77
4 Mar 2019	263	66	197	18.63	95	24	71	35.79	90	87	35	35	72	71
11 Mar 2019	191	66	125	18.85	55	19	36	34.55	57	49	37	36	48	47