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Lessons from the COVID-19 pandemic in paediatric post-discharge care

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ABSTRACT

The COVID-19 pandemic dictated rapid reform in outpatient paediatric services. To reduce ward footfall and its associated infection risk, a trainee-led outpatient clinic was established with the aim to provide children with continuity of care following discharge from hospital. The service was created as a safe alternative to the long-standing practice of ward attenders while reducing mounting pressures on appointments at consultant-led clinics. Several issues arose in its implementation. A retrospective analysis with insights from service users found significant communication issues at various stages in referral, booking and follow-up management. This project aimed to reduce clinic non-attendance rates and ensure timely outpatient review with effective communication to all parties.

Quality improvement methods allowed the problem to be understood and defined. Through consultation with service users in the start-up phase of the project, four key criteria were determined as essential for improving communication: indication, lead consultant, patient attendance and outcome letter provision. The project aimed to achieve 100% compliance across the four criteria during the 6-month project period. A baseline measure was established and measurements collected while five interventions were tested using plan–do–study–act test cycles.

Following the small-scale tests, the run chart illustrated process improvement leading to meaningful change in outcome at both patient and service level. During the project, performance increased from a baseline median of one to a minimum of three out of four criteria being met for every patient. Several patients and families had a change in management as a direct result of their timely review and communication of clinic outcomes. These interventions resulted in a 50% reduction in the clinic's did not attend rate.

The initial pandemic response to facilitate post-discharge care for children and young people led to frustrations surrounding communication breakdown among service users. Targeted interventions led to the development of a safer, more efficient service. Ongoing feedback continues to guide strategies for change with future work in service development focusing on capturing patient experience and improving patient-centred outcomes.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Children and young people have unmet healthcare needs after discharge from hospital leading to adverse health events including unscheduled care attendances, readmissions, increased medical costs and even death. Various models of care management exist to address these ongoing needs including consultant and nurse-led outpatient clinics, open access for patients and families as well as community-led services. The COVID-19 pandemic challenged their feasibility of existing models of care and led to the rapid reform of current post-discharge care with the design of a trainee-led outpatient service.

WHAT THIS STUDY ADDS

⇒ The clinic's breakdown in communication led to an urgent evaluation of children's needs following discharge and the opportunity to promote patient safety by delivering a more efficient service by testing targeted interventions and responding to feedback.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Future quality improvement initiatives for paediatrics should focus on tools seeking the patient experience as well as allowing for a framework where service users can discuss change ideas to test in future cycles in the test series.

PROBLEM

The COVID-19 pandemic created a sudden, unprecedented pressure on UK healthcare services from March 2020. Vital paediatric outpatient services for recently discharged children could not cease and had to adapt rapidly.

Prior to the pandemic, consultant-led paediatric clinics at the Royal Belfast Hospital for Sick Children (RBHSC) had long waiting times. In addition to providing secondary-level inpatient care for its natural catchment area, the RBHSC also provides tertiary-level care for all of Northern Ireland. This gives rise to a wide variety of presentations among a diverse population. Weekly acute admissions often see over 150 children and young people (CYP) pass through its doors, many of whom require continuing post-discharge care. In response to this, an established practice allowed recently discharged children to attend the ward for follow-up investigations to avoid adding to the mounting pressures in outpatient clinics.

However, on 16 March 2020, the UK government recommended minimising contact with

non-household members and 'shielding' for those with pre-existing medical conditions due to the rising threat of COVID-19.[1] Consequently, the COVID-19 response demanded a rapid change in practice to reduce infection exposure risk and manage rising anxiety among carers of vulnerable CYP. Alternatives were considered to reduce footfall on inpatient wards while continuing to provide CYP with post-discharge care.

The rapidly implemented solution was a 'Trainee Review Outpatient Clinic' with senior support. Designed as a safe and sustainable alternative, the clinic, led by paediatric trainees, aimed to provide continuation of care and follow-up post-discharge. It was designed to coordinate care at this vulnerable point in the patient journey allowing for symptom monitoring, repeat investigations and/or clinical review.

However, the mounting pressures on this newly established outpatient clinic ultimately led to its demise within the year. While the clinic was presented as a novel solution to a pre-existing problem, several issues arose in its implementation leading to the fragmentation of care for the CYP it served. Service users identified the breakdown in written communication as the single most detrimental factor in the clinic's success. Common issues included the delay in the arrival of appointment reminder letters, the omission of patient details within the clinic appointment diary, and the lack of documentation regarding the clinic encounter for carers and healthcare professionals. This led to wasted journeys, missed appointments and opportunities lost. Feelings of dissatisfaction with the service were shared by CYP and their carers alike as well as the clerking and medical teams involved in its operation. All parties found themselves left in the dark.

Determined to address this problem, we commenced a blended quality improvement (QI) learning programme over a 6-month period, working virtually via a social learning platform. Alongside online coaching from mentors, we used the Model for Improvement to guide our efforts.[2] The aim was to ensure all CYP attending Trainee Review Clinic underwent timely clinical review with an outcome letter completed and communicated to all parties by the end of the project period. The outcome letter refers to the written communication that is sent to the primary care provider and lead consultant following attendance at the clinic, which clearly summarises the clinic encounter and any further action required.

Background

The rising pressure on paediatric outpatient services is well recognised, and the reform of these services remains high on agendas within the National Health Service and healthcare systems globally.[3 4] The COVID-19 pandemic accelerated the launch of many novel initiatives to redesign the provision of paediatric services. In the outpatient setting, telemedicine was a front-runner in the success of managing capacity bottlenecks in many specialties together with other initiatives including leveraging stronger links with community services and home-based programmes.[5 6] Many healthcare systems opted to rearrange roles and responsibilities of healthcare workers including expanding the scope of practice of community pharmacists and specialist nurses.[7] However, few considered the value and potential of junior doctors in remodelling outpatient services. Each year in the UK, over 400 junior doctors embark on paediatric training, yet these trainees remain an underused resource for improvement.[8] Forming part of the Royal College of Paediatric and Child Health postgraduate curriculum, trainee-led outpatient clinics with senior supervision provide valuable learning opportunities while reducing mounting pressures on appointments at consultant-led clinics.[9]

The average cost per attendance at a paediatric non-consultant-led outpatient clinic is approximately £166.[10] Five to ten per cent of this represents the cost of being seen by the paediatric trainee, while the remainder accounts for the processes and overheads of managing and organising an outpatient appointment in secondary care. This may include the administrative costs of referral and booking systems, nursing and axillary staffing, generating medical notes, the capital cost of the building and facilities management. When the lines of communication between these processes break down, the quality of outpatient care is compromised resulting in care fragmentation for CYP, and the benefit of this expenditure is not realised.

Post-discharge care is a vulnerable stage in the patient pathway with growing evidence to support the need for interventions in care transition specific to the arena of paediatrics.[11–13] Improvement literature on post-discharge care in adult populations is more widely available. It highlights communication failures and lack of timely follow-up as key factors leading to delayed and unsafe care transitions with low-strength evidence to support any specific strategies.[14–17] In developing this perspective, safe post-discharge care is seen as relying upon effective communication and collaboration between stakeholders, which can mitigate system complexity, promote patient safety and reduce expenditure.

Measurement

While the project team understood that patient volume and staffing issues were factors that may have compounded the clinic's problem, it was believed that systems and processes could be improved for the benefit of all service users. With the support of mentors, an understanding of the principles that underpin QI using the Model for Improvement was gained.[2] To better understand the systems and processes surrounding our problem, the project team produced a high-level process map which illustrates the steps involved in the referral and review of CYP at the clinic (see online supplemental file 1—Process Map). Initial analysis found significant issues at various stages in referral, booking and follow-up management. We identified poor documentation by paediatric trainees in the referral process as one of the earliest problems and focus for interventions. We postulated that improved documentation by trainees may improve the processes

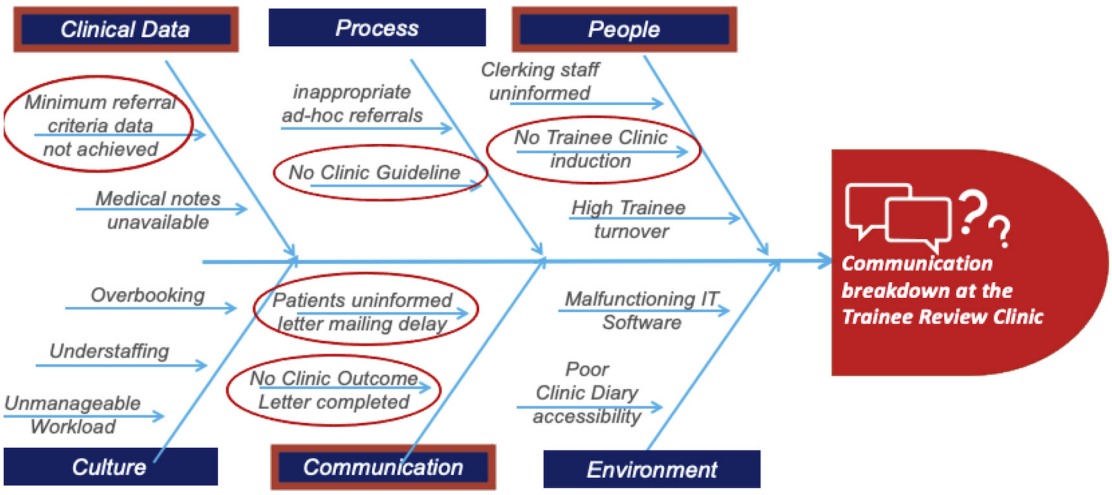

Figure 1 Fishbone diagram. IT, information technology.

downstream, such as clinic attendance rates and dissemination of outcome letters.

A fishbone diagram clarified the nature of the problem by categorising issues under common themes (see figure 1). Displaying these visual templates in staff rooms and outpatient departments made it easy to share our learning with targeted stakeholder groups while capturing feedback and novel responses. The extent of the problem became clear upon creating a Pareto chart which quantified common reasons for the communication breakdown at Trainee Review Clinic (see figure 2). The chart indicated that by addressing the lack of outcome letters alone, we could reduce the overall burden of the problem by up to 30%.

A process measure was defined for the four criteria to study the communication among service users and measure the impact of interventions, namely the inclusion of an indication for review, a named lead consultant, successful clinic attendance and provision of outcome letters. A score of 1 was attributed to each criterion that was met giving a total maximum score of 4. To understand the problem in its current state, a baseline measurement was obtained from 20 patients referred to RBHSC Trainee Review Outpatient Clinic in February 2021. This indicated that only 10% of CYP underwent timely clinical review with effective communication of outcomes based on attainment of all four criteria and highlighted an urgent requirement for improvement.

Using the clinic diary and electronic care records, the four criteria were examined for two patients chosen at random from a total of six patients attending each week and given a score between 0 and 4. By sampling one-third of weekly service users over a 6-month period, a representative sample (n=64) was obtained. While this approach acknowledges the constraints and pragmatism of QI work, subsequent application of Epi Info generated a minimum sampling number of 63.[18] Following the baseline measure, a further 44 measurements were collected while interventions were tested. Using this composite measure, a run chart was devised with the baseline measure plotted

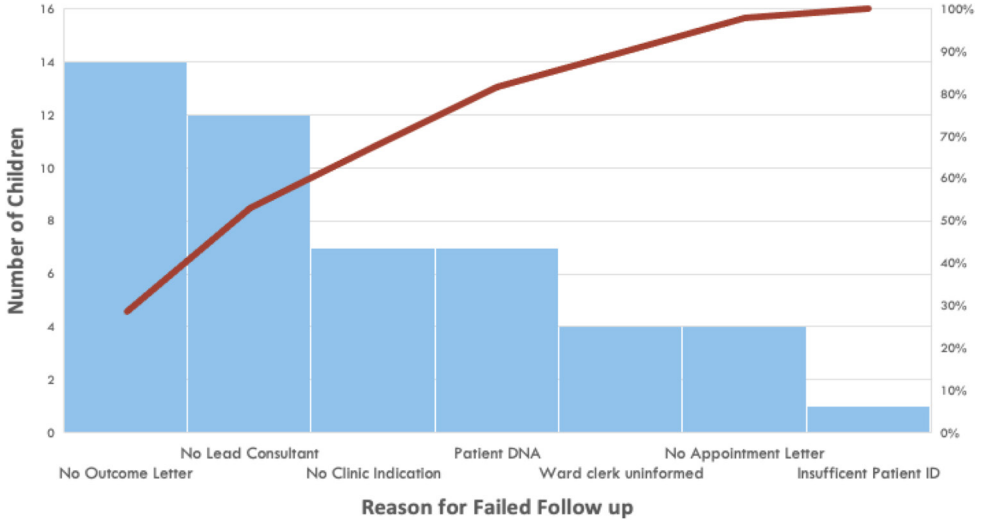

Figure 2 Pareto diagram illustrating common reasons for communication breakdown at Trainee Review Clinic. DNA, did not attend.

prior to the introduction of interventions. The median baseline was used to determine if a statistically significant change was achieved. Learning about the effectiveness of each intervention as it was developed was captured in the 'study' element of each plan–do–study–act (PDSA) cycle. Overall effectiveness of the interventions was determined by studying the run chart data each week with reference to the baseline median.

Design

Our QI project (QIP) team consisted of an ST1 paediatric trainee (KM) as project lead working virtually via a social learning platform with two mentors: the paediatric consultant lead within RBHSC (NO) and QI faculty and coach (ND).

At an early stage in project design, mentors (NO and ND) encouraged further involvement of those at the centre of the service, namely CYP and their carers. As a newly established initiative, existing data on the nature of the communication problems within the Trainee Review Clinic were limited. As part of the appointment rescheduling process, administrative staff routinely obtain the reason for non-attendance. These existing data from the service became a key driver for change with continuous reflection on these themes throughout the project period. Moreover, it helped us understand the journey in post-discharge care and the details of the pathway from the patient perspective. This was hugely beneficial in identifying existing bottlenecks on our process map and areas where effective communication was at risk (see online supplemental file 1—Process Map). This led to a robust measurement definition with the formation of four key criteria to improve communication, specifically: the inclusion of an indication for review, a named lead consultant to oversee patient care, the successful clinic attendance by the patient and the provision of an outcome letter. The project aimed to achieve 100% compliance across these four criteria within the 6-month project period.

By consulting the paediatric trainees and consultant teams who deliver the service, change ideas were explored, discussed and future problems anticipated. Ongoing feedback from these groups continued to guide the strategy for change throughout the 6-month period. By engaging service users in meaningful conversations, more than 12 change ideas were proposed and appraised based on ease of implementation, cost-effectiveness, acceptability, sustainability and effect on patient safety. Several ideas were dismissed as they were outside our scope of influence. Upon identifying five worthy change ideas, PDSA cycles were used to test each idea to determine whether they led to a measurable change.

It was anticipated that achieving a target of 100% compliance across the four criteria within the 6-month project period would be challenging, given a baseline compliance of 10%. However, the team felt that it was an appropriate aim when considering alignment with quality indicators for paediatric care.[19]

Strategy

We set a specific, measurable, achievable, relevant, and time-bound (SMART) aim to ensure all CYP attending Trainee Review Clinic undergo timely clinical review with outcome letter completed and communicated with all parties (from baseline 10% in February 2021) by February 2022. Progress against our aim was determined by attainment of the four criteria as our own QI practice was developed.[20] Five different change ideas were tested using PDSA cycles (see online supplemental file 2—PDSA cycles): the phased development and then the distribution of a clinic protocol, introduction of a referral proforma, trainee troubleshooting sessions and appointment cards. Improvement was visualised in a run chart recording the number of criteria met and reviewed for every patient throughout the project duration.

Change idea #1 (PDSA of six test cycles in series)

The initial change idea involved the development of a protocol describing the standard operating procedures for the Trainee Review Clinic. Its purpose was to provide detailed guidance on the clinic rationale, indications for use, referral and booking procedures, communication of results including guidance on outcome letter format and follow-up management. Written by team lead (KM), it was distributed widely, undergoing several revisions based on feedback from focus groups of consultant teams. Each revision represented a linked PDSA as the change idea was developed and refined.[21] This allowed barriers to the referral process to be addressed, accountability for follow-up to be defined and minimum criteria for outcome letters to be determined. The protocol received local trust approval before being introduced, but no improvement was seen in the run chart as we continued to measure against our four criteria (see figure 3). The initial prediction of what change was needed did not match the outcomes obtained. Upon studying this test, it became clear that this change idea was not focused on our target group, namely paediatric trainees. While protocols help to define and agree procedures, in themselves they do not bring about change. This learning helped us identify our next action: to adapt this change idea to include distribution of the protocol among trainees and this formed our second PDSA cycle.

Change idea #2 in PDSA series

Building on the initial change idea and learning from the lessons of the first test in series, the hypothesis for our second change idea was that distribution of the clinic protocol via trust email to our target group, paediatric trainees, would result in better compliance with the protocol. When asked if they had read the protocol, only 40% confirmed they had done so. On the run chart, a small increase above the baseline median was observed. Encouraged by this, we decided to extend this change idea and test it again in the period of trainee changeover with the expectation of a latent effect contributing to sustained improvement. Crucially, the protocol's

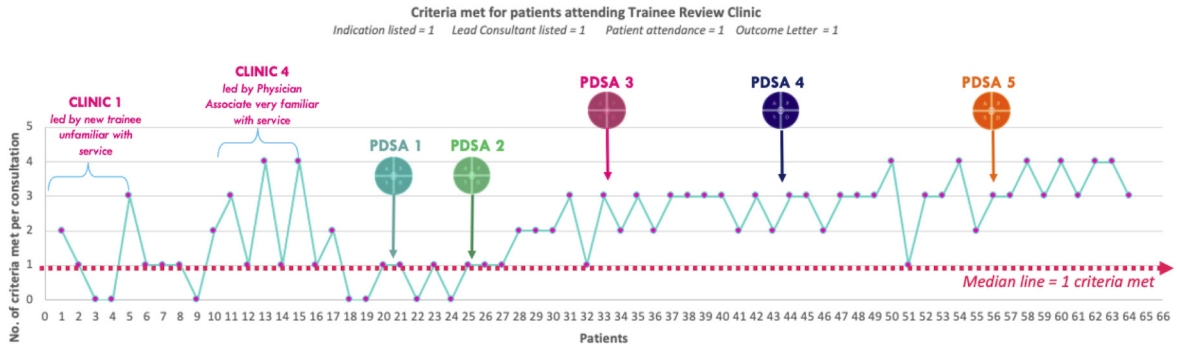

Figure 3 Run chart of six test cycles in series.

distribution sparked conversation among trainees and unveiled a major oversight of the project to date. The trainees expressed their frustrations having not been involved in the protocol development despite being central to service delivery. Given concerns that our focus on improving communication through the completion of documentation may result in an increase in trainee workload, a balancing measure focused on capturing the trainee experience and potential challenges was developed within change idea #3.

Change idea #3 in PDSA series

It was hypothesised that our change ideas may be more effective if we pursed trainee insights to guide future interventions. Troubleshooting sessions were organised, with trainees invited to attend on a voluntary basis to allow common issues to be addressed, and potential solutions for service delivery to be sought. This led to improvement in the four criteria with performance being maintained above the baseline median on the run chart for over 10 patients indicating a statistically significant shift. As a result, this change idea was adopted with trainee troubleshooting sessions arranged every 12 weeks to seek out rising issues and gather new ideas.

Learning during this stage of the PDSA series gave rise to the design and display of a poster summarising the problems and change ideas discussed. Over the course of the following week, trainees were encouraged to identify the interventions they believed to be the most promising by considering effectiveness, convenience and future sustainability. The most popular change ideas included the introduction of a referral proforma (change idea #4) and appointment cards (change idea #5).

Change idea #4 in PDSA series

Trainee feedback stated that the lack of prompts in the clinic booking diary led to inconsistencies in patient documentation. It was hypothesised that a referral proforma may be effective in making this process more convenient. The clinic booking diary was altered and a referral proforma attached; this paper form was a convenient way to record the minimum patient criteria necessary, primarily detailing the clinical issues and need for follow-up. The increase seen prior to this cycle was maintained and the number of criteria met further increased—ultimately improving communication with service users. Despite this positive feedback, there was some doubt that trainees would continue to adapt the diary to include this paper proforma in the next rotation. This highlighted the need to consider an electronic format accessible to trainees and clerking staff alike.

Change idea #5 in PDSA series

The final test cycle was based on feedback received from trainees from our third change idea. Clinic appointment cards were introduced and placed within the booking diary for ease of distribution to patients at point of discharge providing details of the upcoming appointment. It was hypothesised that they would act as aide memoires reducing dependence on the timely arrival of reminder letters for upcoming appointments. Positive feedback from trainees was received with the run chart showing further significant improvement across the four criteria. Although patient and carer feedback on this intervention is still to be collected, the appointment cards have been adopted. Measurement continues to determine if the changes introduced continue to result in sustained improvement.

RESULTS

20 data points formed the baseline measure, with a further 44 data points collected while ideas were being tested. These are shown in the run chart (see figure 3). Compliance with the four criteria was monitored throughout the project, reviewing two patients at random each week over a 6-month period. The outcome measure was plotted on the run chart for each data point which allowed us to visualise the improvement made with each intervention that was implemented.

The baseline median compliance with the four criteria was one with significant variation between clinicians and within individual clinician practice. From change idea #3 in series, the baseline median was met or exceeded indicating a statistically significant improvement. Increase in compliance across the four criteria was most marked following the introduction of change ideas #4 and #5 with the latter resulting in 10% meeting two criteria, 50% three criteria and 40% all four. The run chart reflects changes in four process measures which were

considered to contribute to the overall patient outcome. The continuous improvement in these processes also led to meaningful change at patient and service level. Most significantly, there was a 50% reduction in did not attend (DNA) rate for the Trainee Review Clinic from 50% to 25%.

Lessons and limitations

Introducing frequent, small change ideas through PDSA cycles allowed us to identify those which resulted in an improvement and could be adopted, as well as those which did not and could be abandoned. This approach enabled us to address frustrations surrounding communication breakdown at Trainee Review Clinic, generate benefits for patients through less DNA rates and fully use booked trainee clinic time. By responding promptly to changing dynamics and the challenges faced in our initial PDSA cycles, we were able to target interventions towards trainees at the forefront of the service which ultimately led to improved outcomes for all service users.

Testing our third change idea marked an important turning point in our project as we began to understand our problem at a grass-roots level from the perspective of trainees delivering the service. In retrospect, the importance of this group may have been identified earlier if stakeholder mapping had been undertaken to analyse their power, influence and impact on the QIP's success. The insights gained generated two new change ideas which we were encouraged to test in future cycles in the test series. This benefit from using small-scale tests of change was not previously appreciated by the author.

Challenges during the change process were captured in PDSA cycles, learning logs and personal reflections. As the project was led by a junior doctor, there were difficulties in navigating the competing demands of key stakeholder groups comprising consultant teams, paediatric trainees and patients. While we adopted our fourth change idea, the team suspect that this will be harder to sustain in the longer term as the printing of a proforma, completing it and amending the diary are an inconvenience and constitute additional work. If this results in a significant reduction in service performance, the team will need to revisit this point of failure in the pathway and seek more sustainable long-term solutions. Potential future innovations involve working in conjunction with clerking staff to ensure the ongoing supply of proformas. In the longer term, in line with the launch of a major digital healthcare initiative in the region, we seek to incorporate the proforma within this new online interface.

While not yet achieving our aim for 100% compliance, we now have a much deeper understanding of the factors that contribute to variation in performance. Specifically, we learnt that outcomes were dependent on the experience of the trainee assigned to the clinic. The change ideas introduced in PDSA series 3–5 helped to remove *trainee-dependent variation* resulting in the delivery of an outpatient service with more robust communication systems. Applying the efficiency of change hierarchy lens, we now understand that changes that rely on better system and process design are more sustainable, while those that relate to human behaviours are harder to sustain over time.[22]

By demonstrating how the QIP assisted trainees in meeting their professional training curriculum, the project gained the support and engagement required in the troubleshooting session to drive change in the penultimate and final cycles.[9] This project suggests that changes which standardise the patient journey from referral to follow-up management lead to a reduction in the fragmentation and variation in care received by CYP.

Aside from bringing benefits to patients, it is important to consider the enormous impact of halving the DNA rates has on healthcare systems in terms of costs and waiting times. For example, a 50% reduction in DNA rates at a cost of £166 per appointment equates to £12 450/year (assuming 300 children are seen in the clinic annually).[10] While it is not possible to show direct cause and effect, failure to follow up and treat just one child with iron-deficiency anaemia for example, that subsequently results in inpatient paediatric stay will incur a cost of £800 (assuming a 2-day stay for a red cell transfusion). Additional benefits include the avoidance of costs and inconvenience associated with rebooking.

Nonetheless, it is important to acknowledge that the DNA rate of 25% remains significantly higher than the national average. This is a common challenge in the delivery of post-discharge care and reflects the varied acuity of clinical encounters. Appointments to ensure symptom resolution are often deemed redundant in those who show clinical improvement, while the development of more serious sequelae typically prompts unscheduled care attendances before the follow-up appointment materialises.

There are lessons too regarding the sustainability of the improvement. As with most changes, the Hawthorne effect is known to play a part. For example, there is an evidence base to suggest that the behaviours of key stakeholders, principal trainees and clerking staff are influenced by their awareness of being observed by the project team.[23] However, the duration of this project is likely to have outlasted this effect.

The time and administration required to maintain our interventions without adequate time in the job plan pose risk for sustainability. Periodical measurement of the four process measures remains imperative to provide ongoing feedback to ensure the project's long-term success. We have identified that this improvement is likely to be dependent on maintenance of the following:

- Convenient access to the clinic protocol, diary proforma and appointment cards.
- Regular troubleshooting sessions with trainees.
- Widening the scope to introduce change ideas in conjunction with clerking staff to ensuring the ongoing supply of materials.
- Trainee Review Clinic champions from consultant teams, trainees and clerking staff to ensure the

learning is continuously shared in the service induction of new staff.

Upon reflection, the latent focus on trainee service delivery rather than engagement of CYP remains one of its greatest limitations. The time limitations of the project meant that patient-centred outcome measures were not included. Future work will refocus on seeking patient experience including reflections from CYP and their carers. Eliciting the patient perspective will provide novel insights to further our project in improving the quality of post-discharge paediatric care.

With the support of mentors, an understanding of the principles that underpin QI using the Model for Improvement provided a structure to guide change and determine whether or not improvement occurred, and the aim was achieved. Aside from improving our chances of success in this project, gaining confidence in the use of robust QI methodology supports its application in future work on larger, system-wide challenges.

CONCLUSION

In summary, the COVID-19 pandemic called for a rapid reform in healthcare service delivery, introducing new challenges and opportunities for innovation. While telemedicine was central to many of these projects, our initiative considered harvesting the potential of junior doctors in delivering outpatient care for recently discharged children in a tertiary paediatric hospital. Our project aimed to improve communication among service users which was jeopardised by its rapid implementation. While we did not achieve our ambitious aim of 100% compliance across the four process measures, a significant increase in performance in the clinic's DNA was achieved. Notably, this was the most patient-focused outcome measure within our criteria, and one which we thought may have been beyond our influence when we described our improvement aim. Ultimately, reducing DNA rates resulted in more children being seen with less lost to follow-up. It also demonstrated more effective utilisation of the funds invested in the trainee-led clinic and a better return on this investment in terms of meeting the needs of our patients.

Using the Model for Improvement, we tested small change ideas allowing us to identify which ones resulted in the greatest improvement in communication. Modifying our approach to seek trainee insights was the greatest catalyst for improvement. Subsequent targeted interventions resulted in a safer, more efficient outpatient service for CYP.

The approach we took to generating change ideas could be easily replicated in other outpatient services and adopted across healthcare trusts offering cost-effective, convenient and easily transferable solutions. Ultimately, we learnt that communication can be improved with better written documentation among trainees, which ultimately aids both clerking staff and consultant teams in overseeing the safe delivery of the service. This prevents the frustrations associated with communication breakdown and reduced our clinic's DNA rate. Simple tools such as referral proformas and appointment cards can be effective in realising these improvements.

Halving the clinic's DNA rate remains one of our project's greatest triumphs leading to meaningful change at patient and service level. It holds potential to deliver both economic and efficiency savings as we move into the post-pandemic era. However, the ongoing success of this trainee-led initiative is dependent on the sustainability of the changes made with measures in place to promote this in the months ahead. Ongoing feedback continues to guide our strategies for improvement in post-discharge care as we consider our next steps. Future work will focus on capturing patient experience at the Trainee Review Clinic and introducing patient-centred outcome measures for the benefit of the CYP it serves.

Correction notice This article has been corrected since it was first published. Author byline has been updated.

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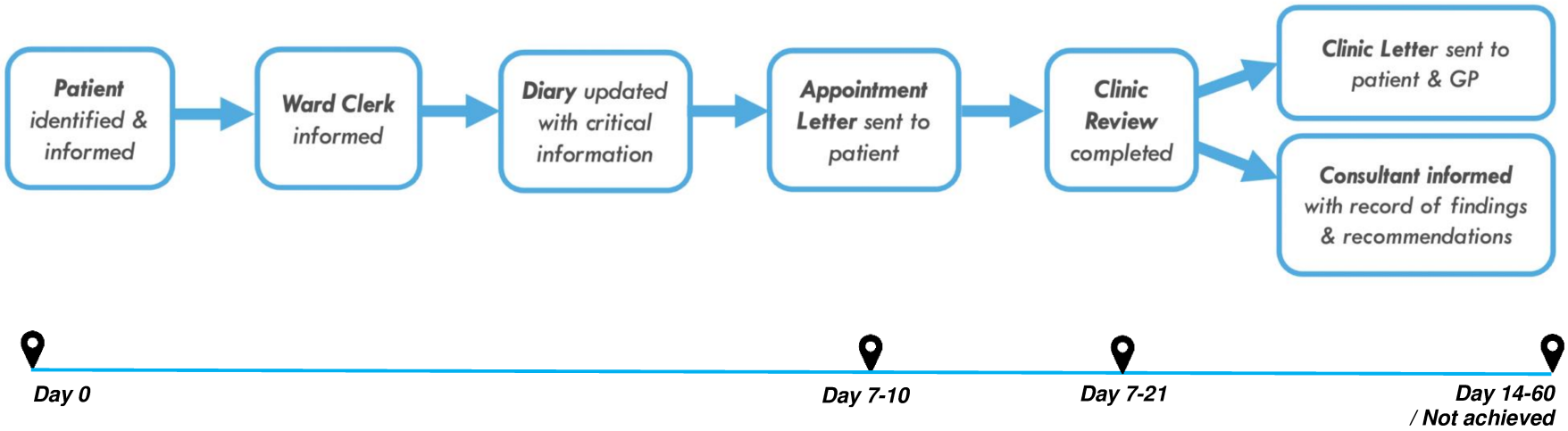
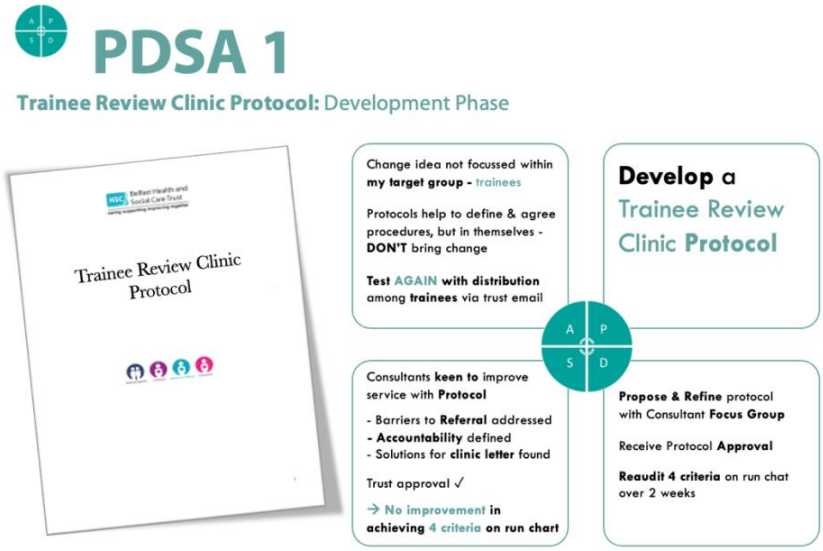
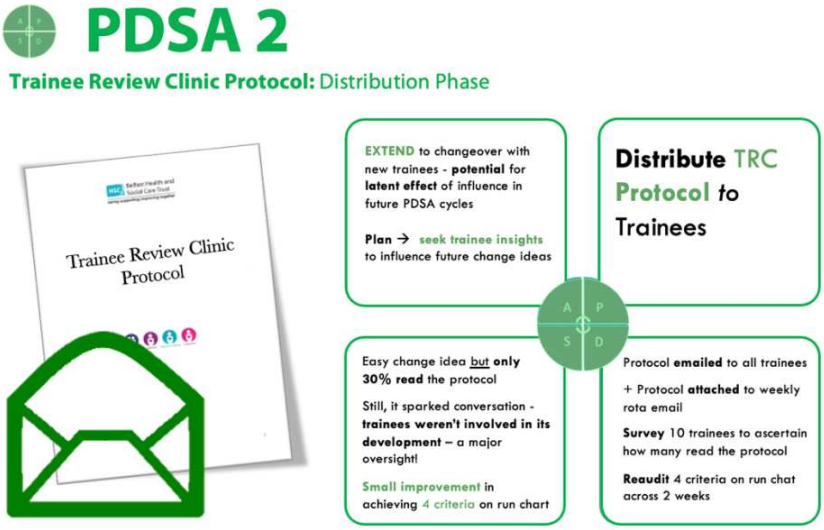
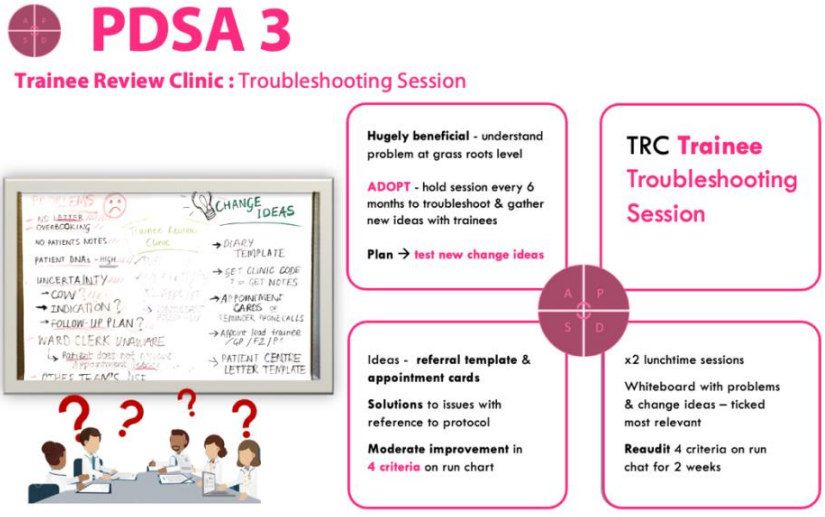


Supplement 1. **High Level Process Map**


PDSA 1
Trainee Review Clinic Protocol: Development Phase
Trainee Review Clinic Protocol
Change idea not focussed within my target group - trainees
Protocols help to define & agree procedures, but in themselves - DON'T bring change
Test AGAIN with distribution among trainees via trust email
Develop a Trainee Review Clinic Protocol
Consultants keen to improve service with Protocol
- Barriers to Referral addressed
- Accountability defined
- Solutions for clinic letter found
Trust approval ✓
→ No improvement in achieving 4 criteria on run chart
Propose & Refine protocol with Consultant Focus Group
Receive Protocol Approval
Reaudit 4 criteria on run chart over 2 weeks
A P S D


PDSA 2
Trainee Review Clinic Protocol: Distribution Phase
Trainee Review Clinic Protocol
EXTEND to changeover with new trainees - potential for latent effect of influence in future PDSA cycles
Plan → seek trainee insights to influence future change ideas
Distribute TRC Protocol to Trainees
Easy change idea but only 30% read the protocol
Still, it sparked conversation - trainees weren't involved in its development – a major oversight!
Small improvement in achieving 4 criteria on run chart
Protocol emailed to all trainees
+ Protocol attached to weekly rota email
Survey 10 trainees to ascertain how many read the protocol
Reaudit 4 criteria on run chart across 2 weeks
A P S D


PDSA 3
Trainee Review Clinic : Troubleshooting Session
CHANGE IDEAS
Hugely beneficial - understand problem at grass roots level
ADOPT - hold session every 6 months to troubleshoot & gather new ideas with trainees
Plan → test new change ideas
TRC Trainee Troubleshooting Session
Ideas - referral template & appointment cards
Solutions to issues with reference to protocol
Moderate improvement in 4 criteria on run chart
x2 lunchtime sessions
Whiteboard with problems & change ideas – ticked most relevant
Reaudit 4 criteria on run chat for 2 weeks
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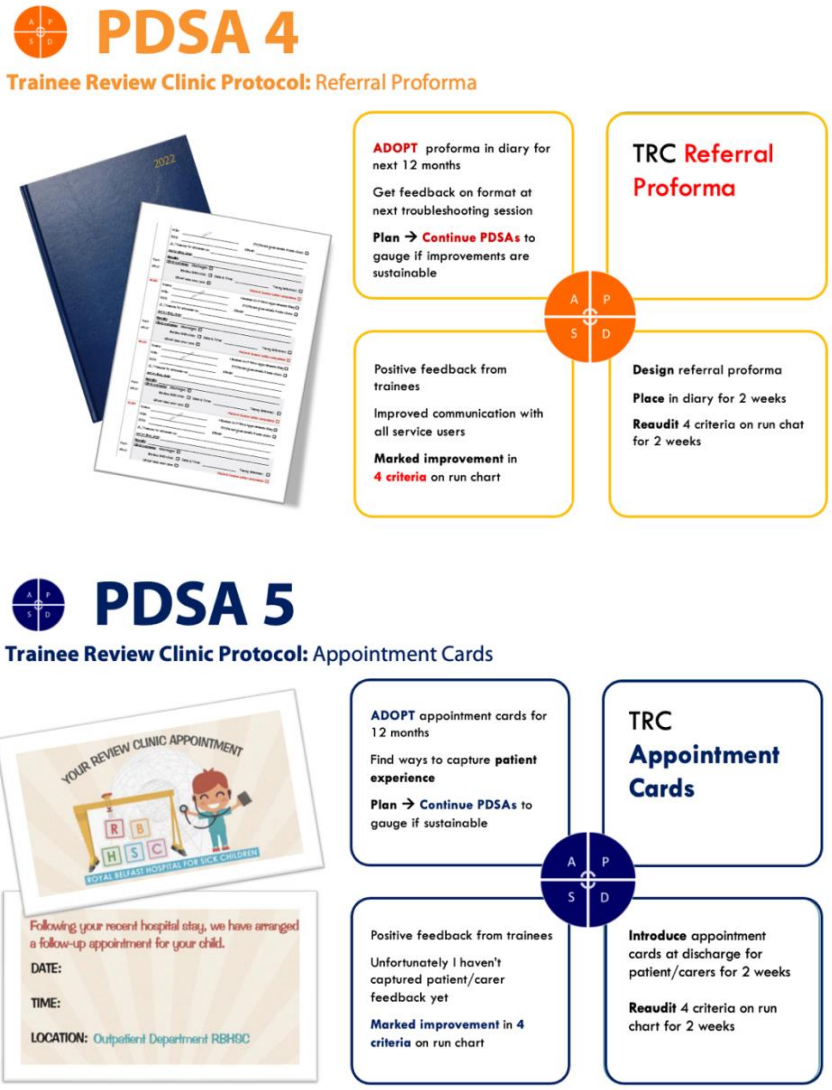
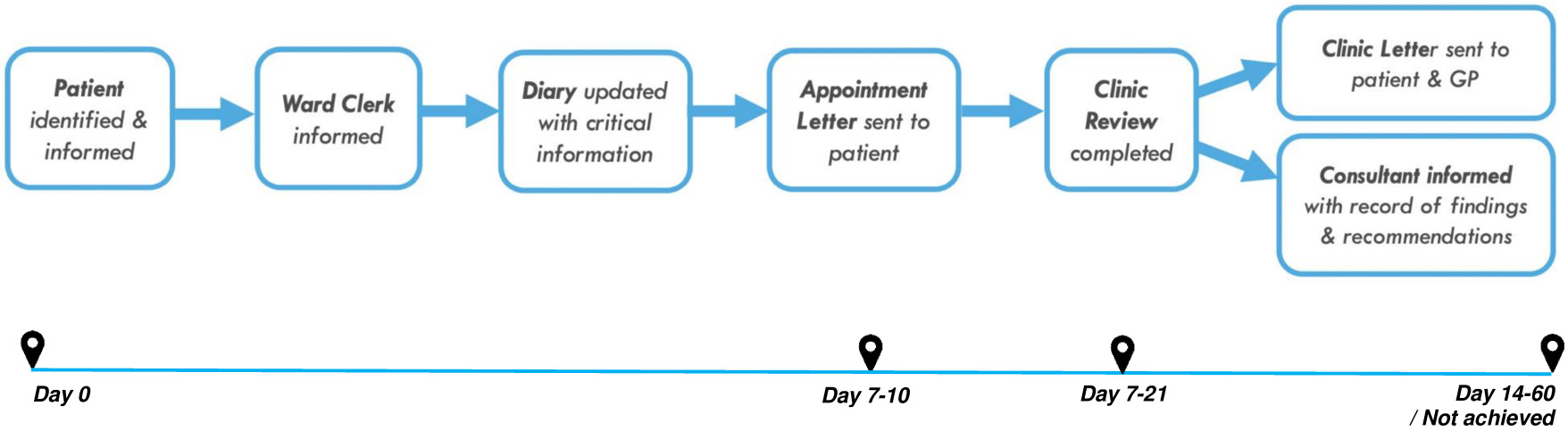


Supplement 2. **PDSA of 6 test cycles in series**



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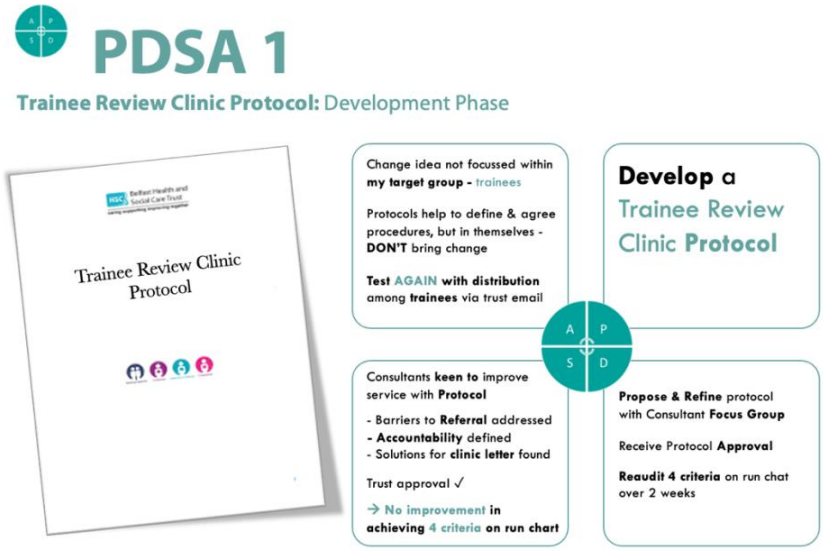
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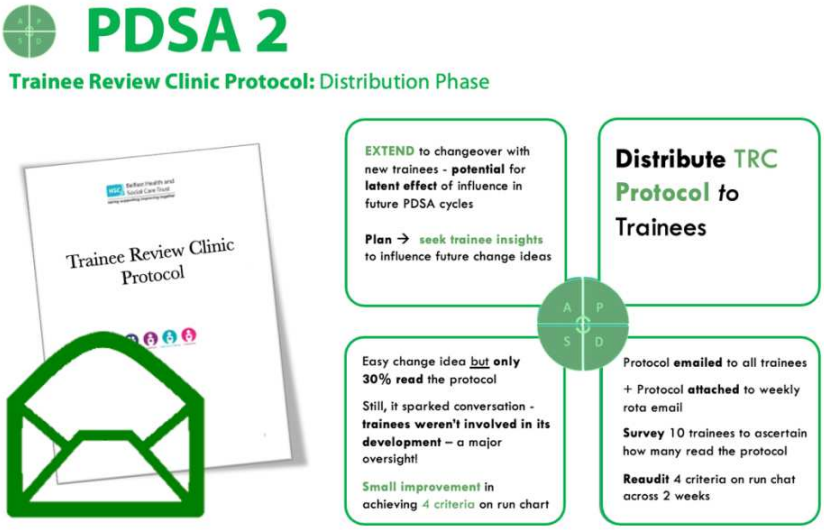
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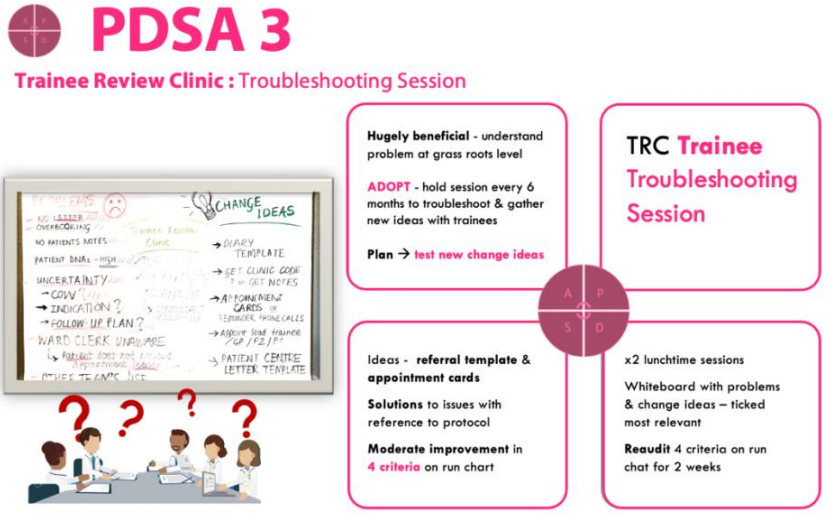
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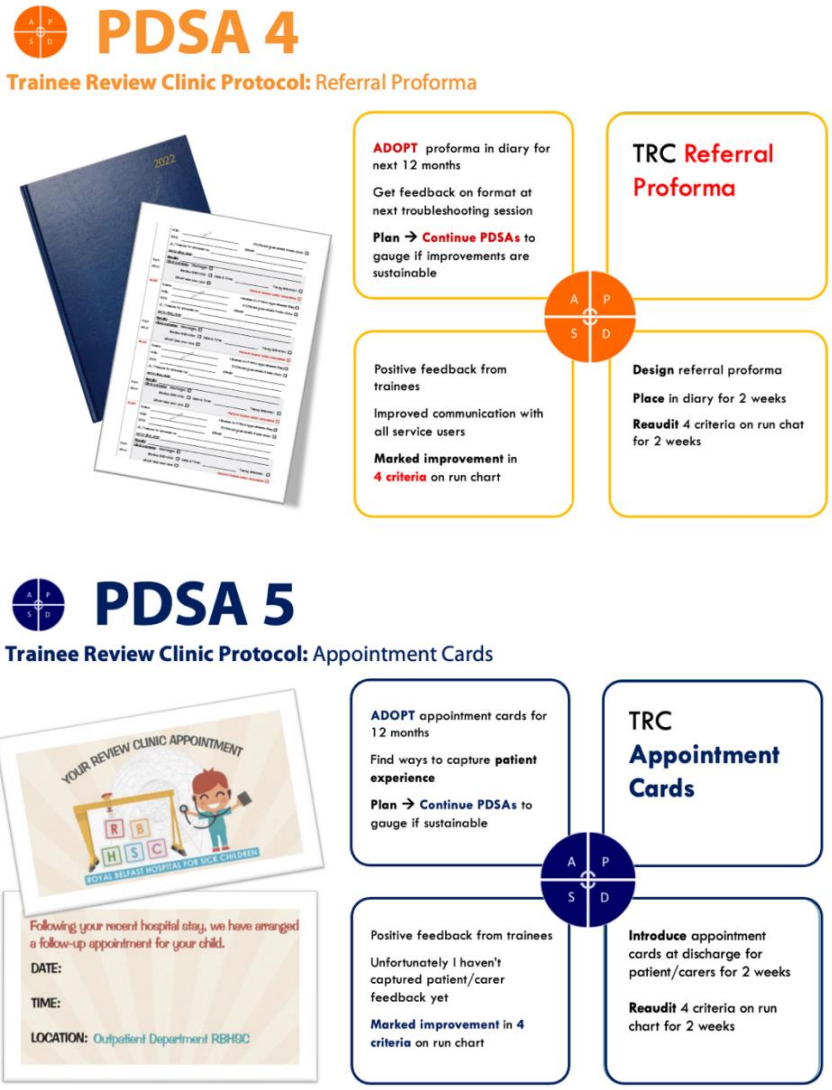

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