

The ELFT Guide to Improving Demand, Capacity, Backlogs and Waiting Times

A Change Package for Patient Flow



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Background

Optimising patient flow to ensure care is delivered in the right location at the right time is essential to delivering safe, high-quality, patient-centred care. In the wake of the Covid-19 pandemic, many clinical teams at East London NHS Foundation Trust (ELFT) faced growing demand for their services and long waiting lists for people to receive the care they needed.

In response to this, the Optimising Flow programme of work began in early 2021. This saw over 50 teams at ELFT working to optimise flow by using a systematic approach to addressing their backlogs, waiting times and increased demand. Staff and service users have worked together across the whole healthcare system, including from GP referrals, primary care, community, and inpatient care.

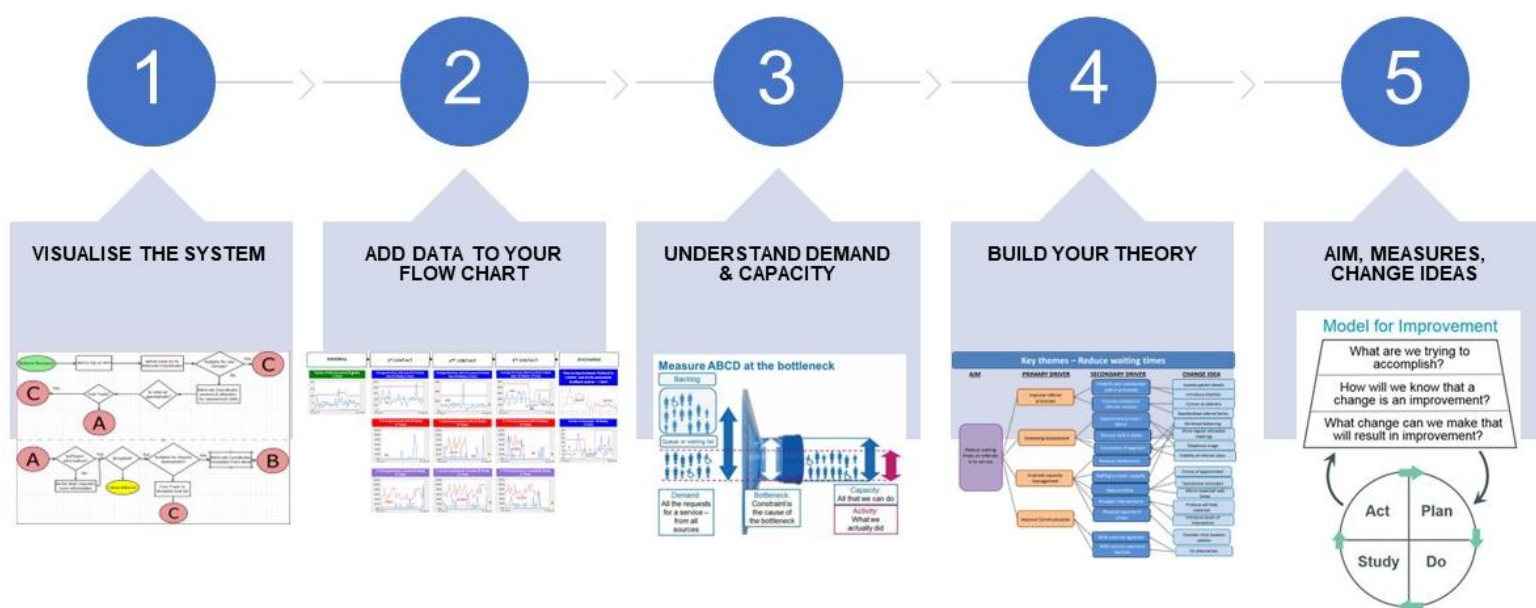
Using learning and case studies from across our programme of work, this guide will help you to understand how to take a systematic approach to developing a project charter and testing change ideas that will help you to solve problems of patient backlog, waiting times, increased demand, and flow through the system.

The ELFT approach to optimising flow

When we talk about flow, we mean the movement of people or things like equipment or information through a system. The idea is to make this movement as streamlined and uninterrupted as possible, like steadily driving along a motorway without traffic jams.

To achieve constant and steady flow, a systematic approach must be taken. Figure 1 shows the five steps our teams took to understand their problem, build a theory of change, and develop testable change ideas. This guide will now take you through each step in more detail, using case studies from our programme of work, to help you apply our approach to your own context.

Figure 1 – The ELFT approach to optimising flow



Making meaningful and sustainable improvements to patient flow requires looking at the whole system to understand how its interrelated parts work together to create its outputs. To visualise the system, begin by involving service users, carers and staff in mapping patient journeys through the system as they experience it. This is known as process mapping or flow charting.

- Batching, where things are grouped together e.g., running a weekly meeting to screen referrals
- Bottlenecks and queues, where delays and backlogs in patient flow may occur
- Duplication or re-work, where the process has to be repeated or cannot continue without going back a step

Newham Child and Adolescent Mental Health Service (CAMHS) provides mental health assessment, diagnosis, and intervention for young people with complex, severe, or persistent emotional, behavioural, or developmental problems. During Covid, the service received a 30% increase in the number of appointments required. This resulted in a fast and significant rise in young people waiting for assessment and treatment. They aimed to improve the time young people waited from referral to assessment by nine weeks.

Figure 2 – Newham CAMHS detailed flow chart



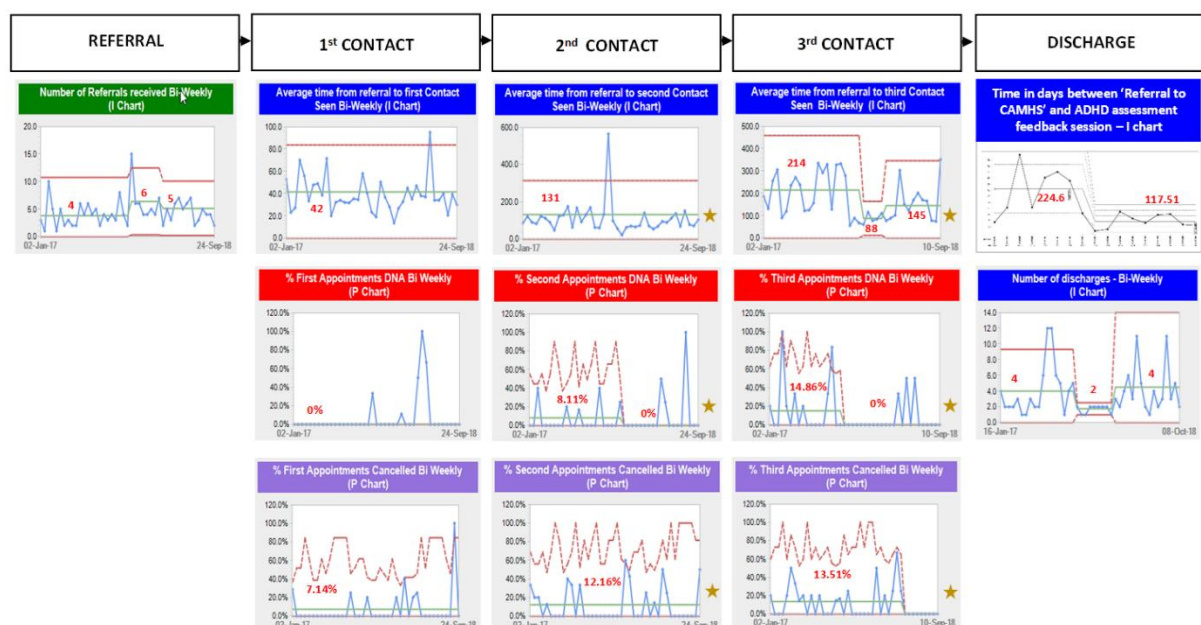
This helped the team make their triage process more efficient because their entire process, step-by-step, could be clearly seen. It also helped those less familiar with the process to understand how the system worked, which enabled the generation of change ideas that were systems focused. It also helped the team choose where to focus first, as the team could clearly see that their backlogs began with their external waiting list (those waiting to be triaged). By addressing this area first, they were able to make their triage process more efficient overall.

Click [here](#) for a step by step guide on how to facilitate a flow charting exercise.

Step 2: Add data to your flow chart

Once a flow chart has been completed, step two involves doing a baseline assessment of patient flow by collecting data to understand where the issues within your system are. This data can be added to your flow chart, as shown in Figure 3, so you can clearly see your current state at each step of the process. This will help you to identify problem areas and guide you to the places that need most intervention.

Figure 3 – High level flow chart with flow data added to each step of the process



Step 3: Understand Demand and Capacity

In an ideal system, we want to match the demand of referrals or requests on a service, with the capacity the system has to address these referrals or requests. If the demand is greater than the capacity, backlogs will occur and waiting times may increase. By matching demand and capacity, we can optimise the flow of patients through our systems i.e., reduce waiting times and improve patient pathways with the resources we have.

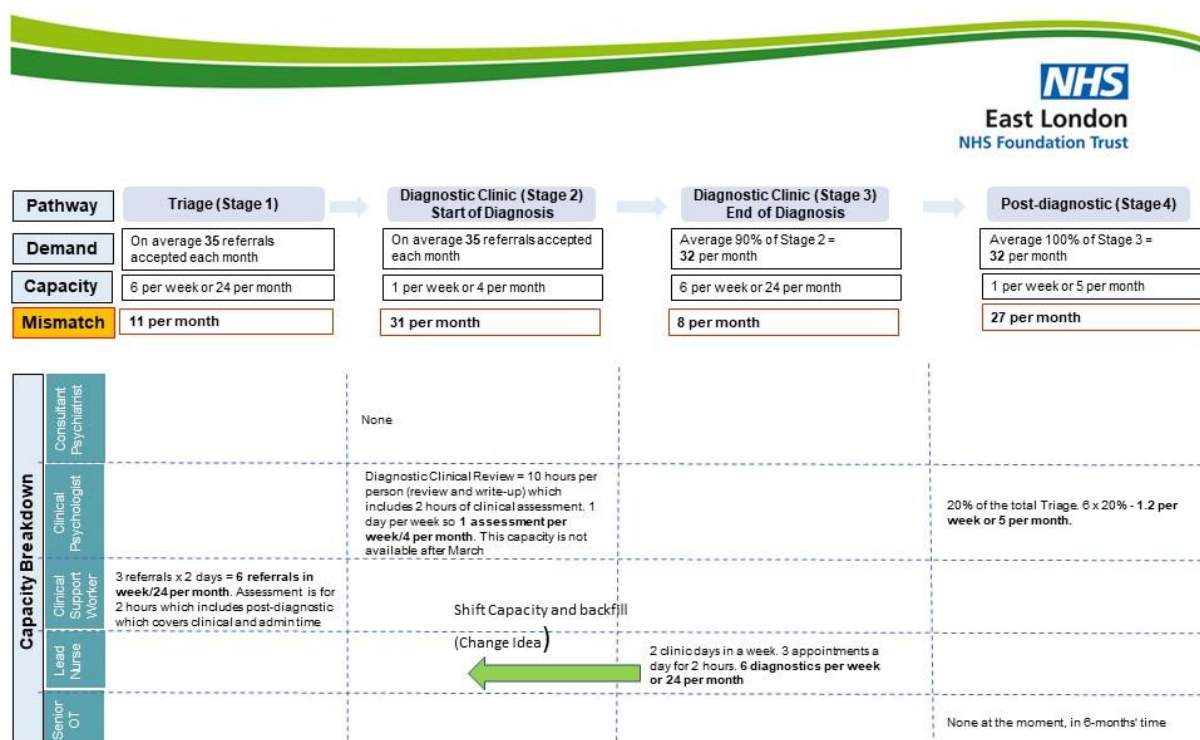
CASE STUDY 2

The Bedfordshire and Luton Autism Assessment service provides local assessment and diagnostic services to people suspected of having autism. It aims to meet guidelines set by the National Institute for Health and Care Excellence that suggests waiting time from referral to assessment should be no longer than 18 weeks. When commencing this work, the average waiting time for a first assessment was 27 weeks. Also, the number of accepted referrals had risen from 137 in 2018, to 350 in 2022, in addition to challenges in recruiting and retaining staff.

To understand their demand and capacity gap, the team, with support from the performance team, conducted a demand and capacity mapping exercise using a demand and capacity mapping tool (Figure 4). They found a gap of approximately 31 referrals per month between demand and capacity. They then used a demand and capacity trajectory tool, which plotted the trajectory of when the team were expected to recover by. This helped the team to develop change ideas that would address their demand and capacity issues for example, gaining approval to over-recruit into a clinical position for six months and increasing administrative support to enable clinical staff to focus on assessing and treating service users.

Click [here](#) for a blank demand and capacity mapping tool template and [here](#) for a blank demand and capacity trajectory tool that you can use in your own service.

Figure 4 – Bedfordshire and Luton Autism Assessment Service demand and capacity mapping tool



CASE STUDY 3

The Hackney Integrated Learning Disabilities Service is a multi-agency, multi-disciplinary team who provides specialist health and social care support to adults with learning disabilities. Due to the Covid-19 pandemic, high demand and staff vacancies, waiting times within the service have

significantly increased. This resulted in people with learning disabilities waiting on average 130 days for occupational therapy input, 24 days for psychiatry input, 85 days for psychology input and 24 days for nursing input. Their aim was to reduce waiting times for all disciplines.

To understand how staff's time was being taken up and address capacity issues within their service the team undertook a time tracking exercise. As a group they discussed and developed an electronic time tracker on Microsoft Excel (see Figure 5) that would be appropriate for each discipline to complete within their service. It provided a two-week window into the time staff were spending on each category. The team were then able to collate the information into a [Pareto chart](#) and identify the vital few areas to focus on first.

Figure 5 – Hackney ILDS time tracker tool

Date		Monday 04/04/2022	Tuesday 05/04/2022	Wednesday 06/04/2022	Thursday 07/04/2022	Friday 08/04/2022	Saturday 09/04/2022	Sunday 10/04/2022	Weekly Total
Time Spent (hrs) to nearest half hour	SLH Consultations								0
	Home Visits								0
	Virtual Consultations								0
	MDTs								0
	Clinical Administration								0
	Managerial/								0
	Education/Study Leave								0
	Supervision								0
	Travelling								0
	Other administration								0
	Annual Leave								0
	TOIL								0
	Other Leave								0
	Lunch/break								0
	Other Activities								0
	Total Daily ILDS Working Hours	0	0	0	0	0	0	0	
	Total Weekly ILDS Working Hours	0							
	Total Daily ILDS WTE	0	0	0	0	0	0	0	

For more information about using this time tracker and collating the data into a Pareto chart, click [here](#).

In addition to demand and capacity mapping and time tracking, some teams have also used a tool called Geo maps. This enable teams to look upstream to see where their referrals were coming from and test change ideas to manage their referrals better and earlier.

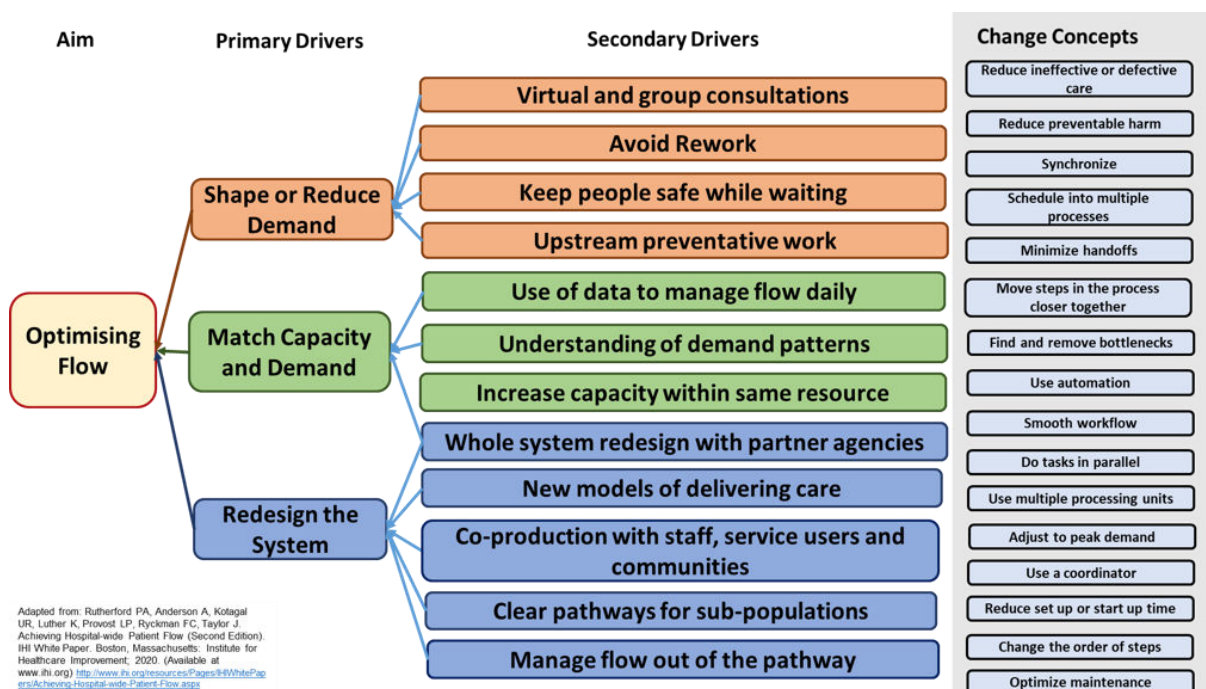
Step 4: Build your theory of change

The [driver diagram](#) in Figure 4 shows the overall change theory for our Optimising Flow programme and can be used as a visual strategy for tackling the complex problem of patient flow. The primary drivers highlight the big bucket areas that should be considered in any project that is aiming to improve flow. The secondary drivers break these areas down into more specific parts, for example if you were trying to match capacity with demand, using data to manage flow daily may help to drive

you towards your aim. Considering how each of the primary and secondary drivers relate to your service, will give you an appreciation for the entire system and help you to address problems throughout the whole system, rather than focusing on just one area and potentially missing vital elements that may help you to improve.

The change concepts can be used as a prompt to help you design change ideas that may be helpful in the context you work in. For example, "use automation" may prompt you to think about using automatic text reminders, rather than having a staff member call a person the day before their appointment.

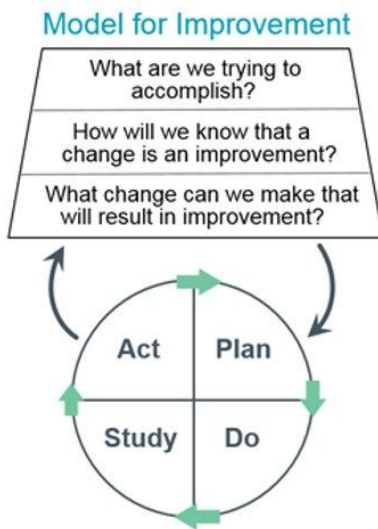
Figure 4 – Optimising Flow Driver Diagram



Step 5: Aim, measures and change ideas

It is vital that any quality improvement work has a measurable aim, a family of measures to understand whether changes are resulting in improvement and a robust way to test those change ideas. Teams in the Optimising Flow programme used the [Model for Improvement](#) (Figure 5) to structure their work around these areas.

Figure 5 – The Model for Improvement



Aim

Aim statements for QI projects answer the first question in the [Model for Improvement](#), “*What are we trying to accomplish?*” They turn the team’s shared purpose into a clear plan. Making an aim Specific, Measurable, Achievable, Realistic and Timebound (SMART) means that the team is clear on the second question in the Model for Improvement, “*How will we know that change is an improvement?*”.

Some examples of aim statements from our Optimising Flow programme are as follows:

The Beds Community Health Service Occupational Therapy and Physio team aimed to reduce the number of 18 plus week breaches to zero for community occupational therapy in all three localities by April 2023.

The Primary Care Management team aimed to reduce vacancy rates from 16.4% to 10% and turnover rate from 19% to 15% by June 2023.

The Hackney Specialist Psychotherapy Service aimed to achieve 95% of assessments within 0 – 11 weeks by January 2023.

Measures

To know that our change ideas have resulted in improvement it is important to develop measures and collect the data related to these measures over time. As with any QI project, developing a family of measures, which include an outcome measure, process measures and balancing measures is vital (see our microsite for more information about [family of measures](#)).

With any work to improve flow, your family of measures at a minimum should include data on:

- Demand e.g., the number of service users referred into your service
- Capacity e.g., the number of assessment slots staff are available to do
- Output e.g., the number of service users discharged from your service

- The time service users spend in each part of the system e.g., time from referral to waiting list, time from waiting list to first contact, time from diagnostic assessment to getting feedback

CASE STUDY 4

Tower Hamlets Autism Service is a multidisciplinary team who offer autism assessment, diagnosis and brief interventions for adults living in Tower Hamlets. By looking at their data, they found that people were waiting on average 9 months from point of referral to starting their autism assessment. The national target is 12 weeks. Considering this, the team began a QI project which aimed to reduce the time people wait from point of referral to starting their autism assessment by 50% in 12 months.

The team started by looking at their demand and capacity data e.g., number of referrals received and the number of service users the team could see each week. In addition to this, the team developed a measurement plan so they could tell whether their changes were resulting in improvement. The measurement plan took into account what they wanted to achieve (their outcome measure), how long service users spent at each stage of the process and measures specific to their change ideas (process measures) and other areas that may be impacted as a result of their change ideas (balancing measures). Table 1 shows the team's detailed measurement plan.

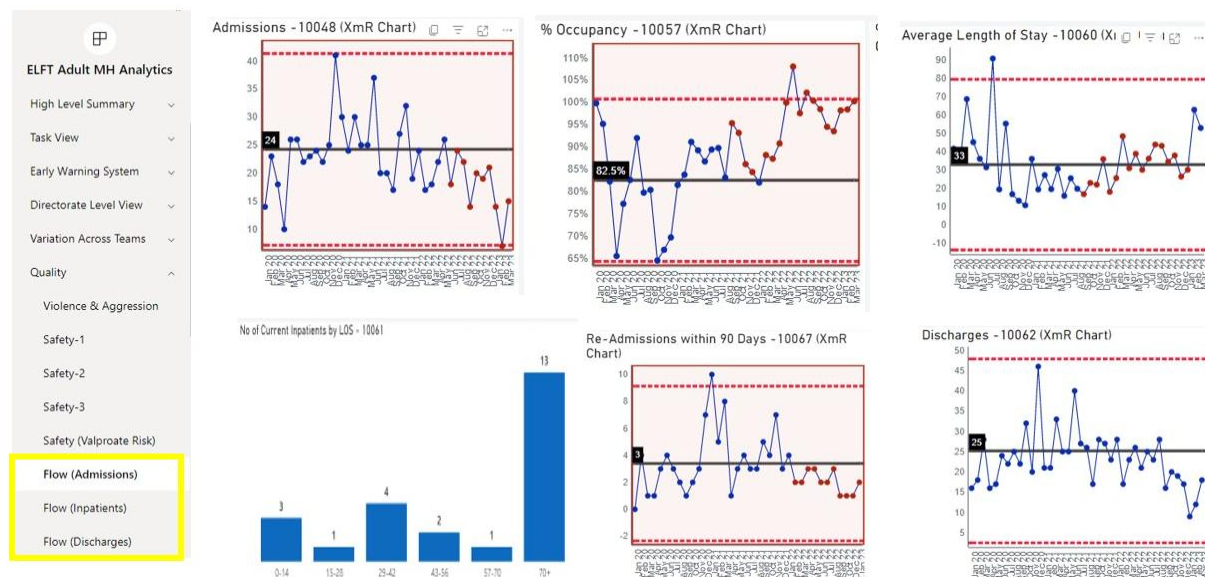
Table 1 – Tower Hamlets Autism Service measurement plan

Measure name	Operational definition	Data collection plan
Outcome measure		
Time from referral to autism assessment	Average time in days, beginning when person's referral is received until when they have received their autism assessment	Who collects: Data is on Power BI How often will it be collected: Monthly
Process measures		
Time from referral to acceptance on waitlist	Average time in days, beginning when person is referred to when they are placed on the waitlist	Who collects: Data is pulled by performance team How often will it be collected: Bi-weekly
Time from diagnostic appointment to feedback appointment	Average time in days, beginning the date a person has their diagnostic appointment until when they have their feedback appointment	Who collects: Data is pulled by performance team How often will it be collected: Bi-weekly
Number of allocations per month	Count of the total number of patients allocated across all clinicians	Who collects: Team lead manually collates How often: monthly
Time taken in interventions	Total time per week of all clinicians that deliver interventions spent delivering interventions to service users	Who collects: each person records their time on time tracker, team lead collates How often: weekly

Balancing measure		
Referrals with booked appointment	Count of the total number of booked appointments per month	Who collects: Data is on Power BI How often will it be collected: Monthly

At ELFT we have a data dashboard called [Power BI](#), that gives teams access to much of the data mentioned above. Figure 6 shows an example of the data dashboard for inpatient flow.

Figure 6 – Power BI data dashboard for inpatient flow



Change ideas

The following section will outline a number of the change ideas tested by teams as part of the Optimising Flow programme. These can be adapted in your service to help solve patient flow problems.

Change idea 1: Reducing steps in the process

The Tower Hamlets Psychological Therapies service is a secondary care outpatient service for people with complex and enduring mental health difficulties. The service offers psychotherapeutic interventions using a wide range of modalities and group therapy. The team discovered that many service users were waiting over the national target of 18 weeks from referral received to second contact. Due to this they embarked on a project that aimed to achieve an average waiting time of 12 weeks or less from referral to second contact by January 2023.

Bringing together both staff and service users from the team, they did a flow-charting exercise, which mapped the steps in their process, including the tasks that each staff member had to do at each step in the patient pathway. They discovered that their pathway had an excessive number of steps, with duplication of work. They redesigned this pathway, removing several steps and all the duplication.

Their initial pathway looked like this:

Referrals:

- GPs, CMHTs, THTT (IAPT)
- Others, secondary-care services (e.g., THEDS, THAS, Deancross etc.

Admin task: Open referral and enter on referral spreadsheet

Clinician task: Clinician to triage referral > update spreadsheet (putting name by triage and outcome decision) and enter triage on Rio:

- 1) Y/N [if 'No', brief rationale for deciding; if 'Yes – accept for assessment' clinical recommendation e.g., Wise Choices) Add note in RIO (progress note)
- 2) Stream/ Recommendation for possible treatment pathway
- 3) GP referral declined?

Clinician to discharge on Rio – Letter to referrer and GP (hard copy) with brief rationale + recommendation for other service + offer of consultation. Patient not to be copied in. Close on RIO ("inappropriate referral")

Referral transferred to other Trust service? Clinician to notify (and where appropriate, gain permission), referrer of transfer

Clinician sends letter via Hybrid mail + uploads to Rio via Drop Zone

Admin task: send out opt-in letter and service information. Client has 2 weeks to opt in. Once opting in, Admin will let assistant psychologist and duty clinician know. Admin to outcome first contact/opt in call on Rio.

First Dialog, CORE and patient questionnaire sent out by admin with assessment appointment.

Clinician task: AP/Duty to call client to confirm that IS information was received and inquire about any further questions regarding our service. Check for email address and ask if client would like assessment letter by email or hard copy mail. (see duty opt-in call crib sheet on MS Teams). Enter opt-in call into RIO as progress note. Ask if client would prefer video or phone call assessment.

Clinicians to open assessment slots as MS Teams link in their calendar (if they offer video assessment).

Referral

First contact

Information session

Second contact

Existing detailed assessment/referral?

Consultation (1 or 2 depending on complexity)

Admin task: Where possible ALL consultations will be generic.

Book SU into next available consultation slot on RIO > book into relevant slot in clinician's diary > send invite to assessment letter to SU, enclosing questionnaire + map + 'You & Your Records' leaflet. **Admin allocate SU to assessing clinician.**

Where appropriate, admin scan & upload complete pro forma, post brief consultation to Rio (Supplied by clinician, post-consultation)

Clinician task: Where possible ALL consultations will be generic. To preserve this arrangement, clinicians may be asked to make slots available at short notice.

Assessing clinician outcome consultation on Rio. Please do not untick 'Face-To-Face' when outcoming (if more than one consultation, record both as assessment)

Clinician sends outcome letter via Hybrid mail + uploads to Rio DropZone

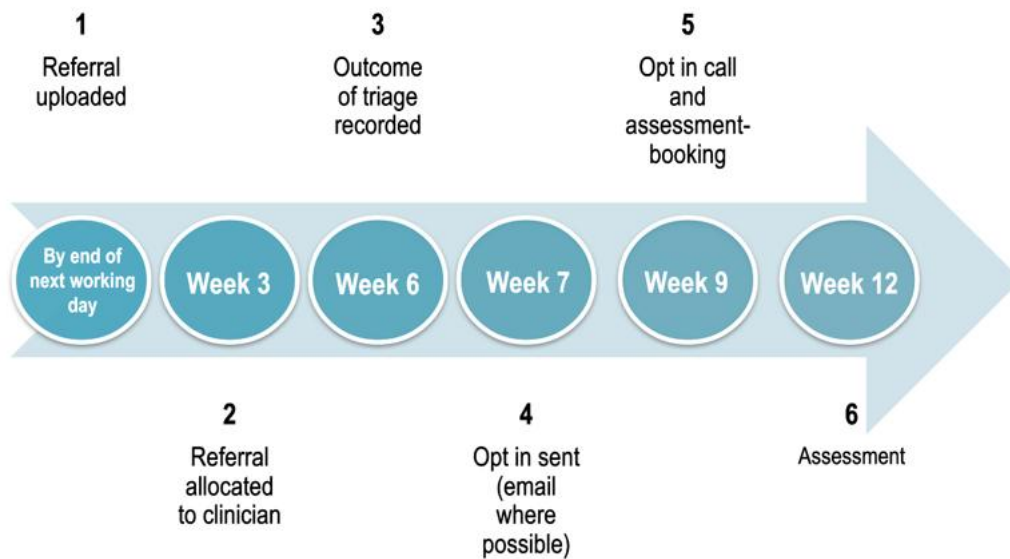
Clinician updates waiting list and allocates clients to treatment on K drive

DNA & cancellation:

- 1) First cancellation > booked into next available assessment slot
- 2) First DNA = discharge
 - Pro forma/questionnaire to be scanned and uploaded to Rio
 - Enter cluster/DIALOG/Confidentiality/CQUINS/Demographics & any risk (Cluster expiry warnings to be sent to clinicians before expiry from admin.)
 - In event of DNA, clinician discharges from PTS waiting list & sends brief letter to referrer

IN EVENT OF DNA, CLINICIAN to check in with Admin that there have not been any messages.

Their new pathway looks like this:

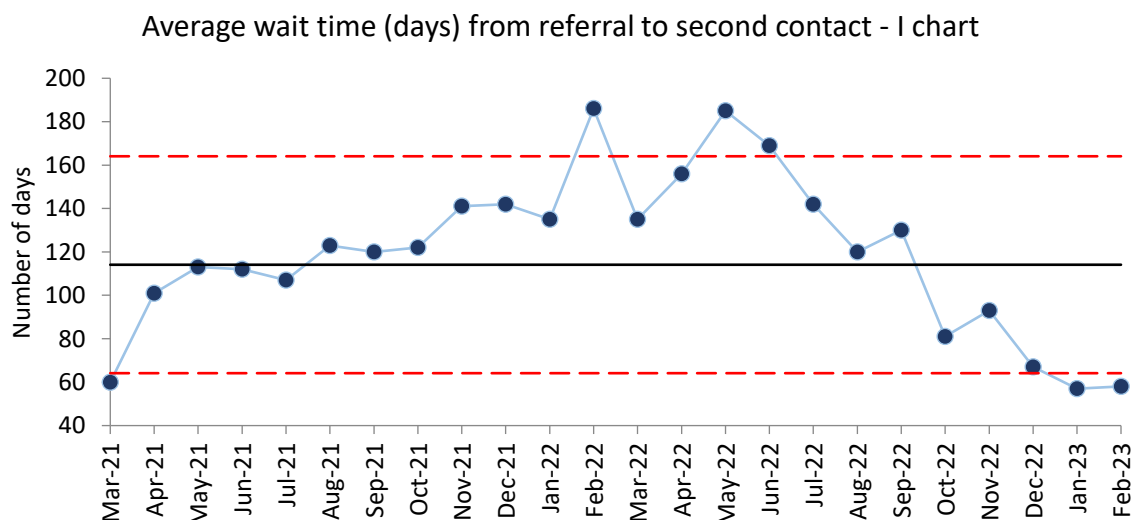


This clear diagram of the pathway with time scales was circulated to the whole team, which helped everybody know what the time expectation was for their tasks. A senior member of the team also oversaw each step in the pathway and held a short weekly meeting to monitor whether timescales were being met and problem solve any bottlenecks.

To eliminate duplication, the team decided to only phone service users about their appointment once, rather than twice. They discovered that this saved more time than expected as staff did not have to pass information onto each other between calls and did not have to try to get hold of service users multiple times if they did not answer. They kept track of their did not attend numbers to ensure this change did not negatively impact on other parts of the pathway.

By testing these change ideas, the team have seen a steady decline in time from referral to second contact (see Figure 7).

Figure 7 – Tower Hamlets Psychological Therapies Service: Time from referral to second contact

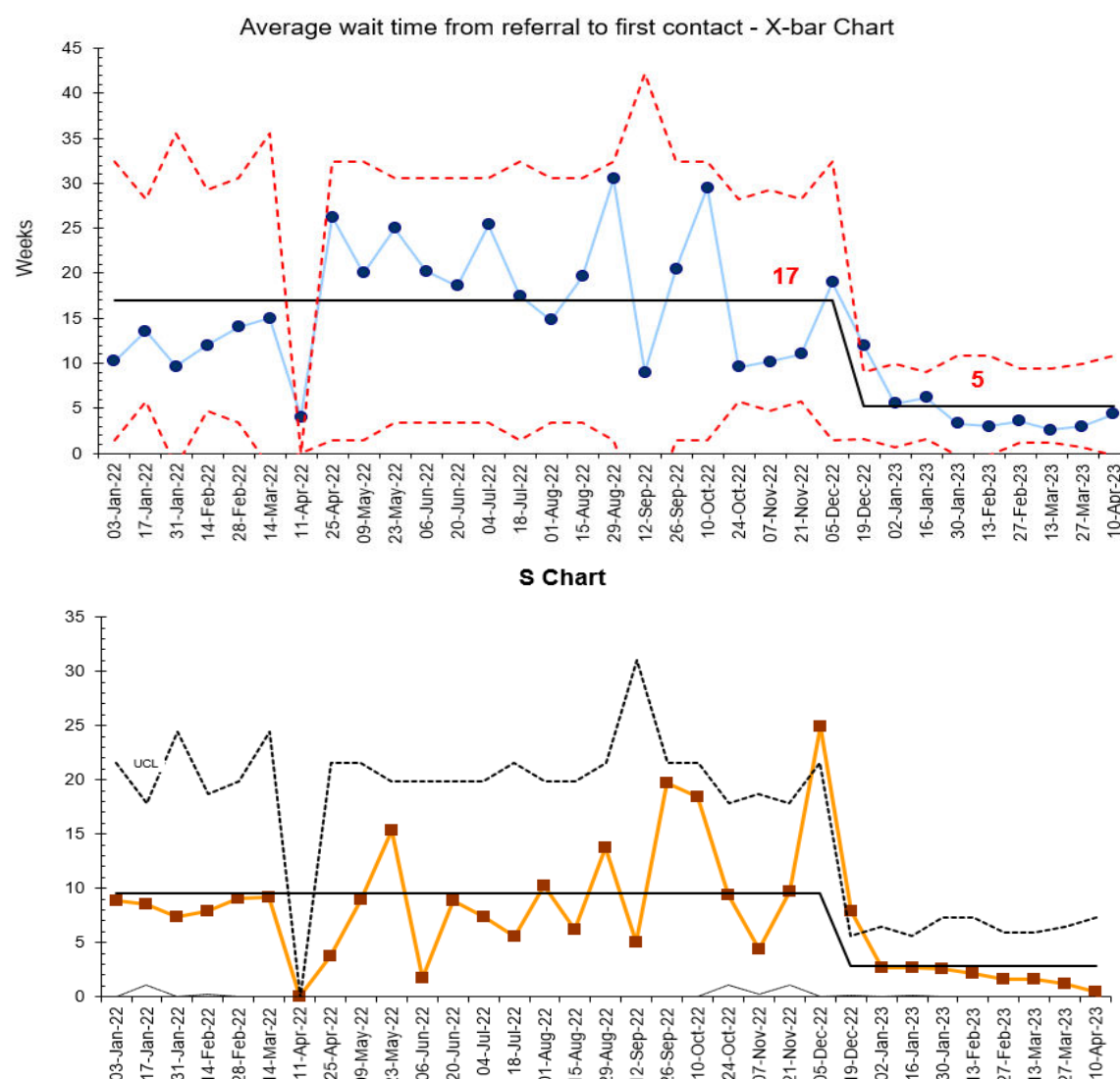


Change idea 2: Repurposing roles and responsibilities

The East London Community Eating Disorders Service for Children and Young People (CEDS-CYP) is a specialist CAMHS service for young people up to the age of 18 who are experiencing an eating disorder. The team identified that there were long waiting times for young people to receive an assessment after being referred to the service. The aim of the project was to reduce their waiting times and improve patient experience. They started by completing a process map to better understand where there were inefficiencies and bottlenecks in the system. They discovered that triages were very time consuming and often became like mini assessments. Based on this, the team decided to discontinue their triage process and instead support the referrer to provide the correct information by updating their referrals form.

The team used to have two senior clinicians assess service users, so they also tested having only one assessor which freed up the second assessor to focus on treating people on their therapy waiting list. After testing these ideas for a few months, the team saw both a reduction in the average waiting time of 17 weeks to 5.4 weeks and reduced variation in the time that people wait (Figure 8).

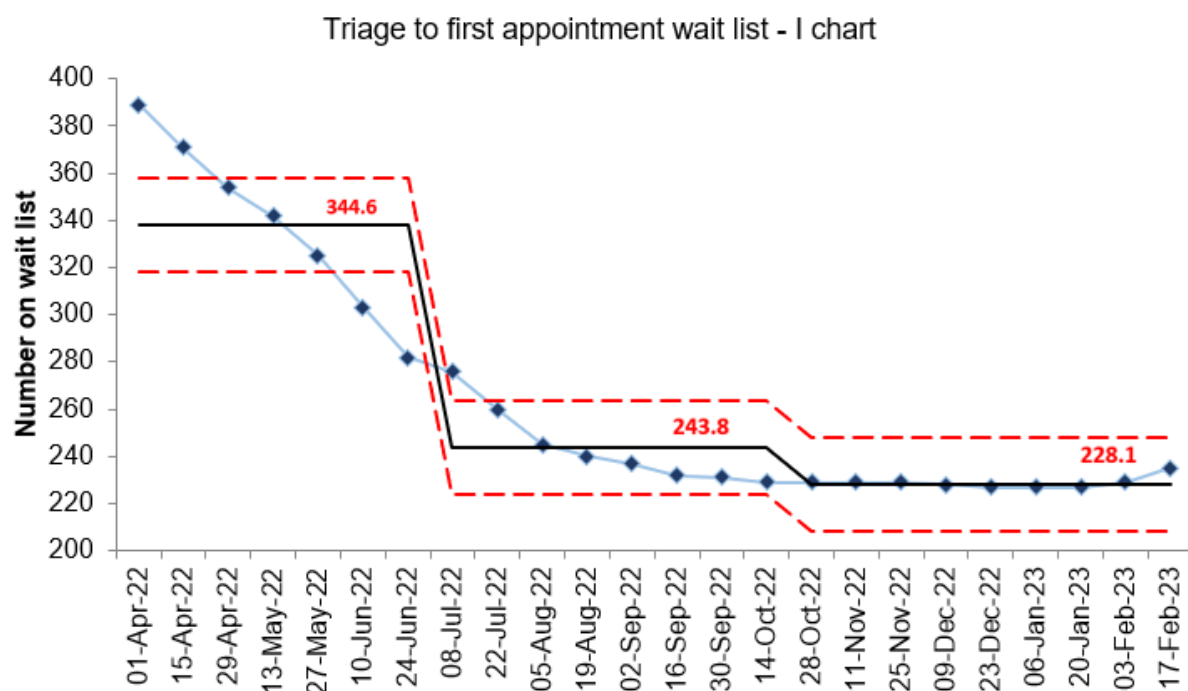
Figure 8 – East London Community Eating Disorders Service for Children and Young People: Average waiting time from referral to first contact



Change idea 3: Allocations spreadsheet

During Covid, the Newham Child and Adolescent Mental Health service received a 30% increase in the number of appointments required. This resulted in a fast and significant rise in young people waiting for assessment and treatment. To reduce their waiting list, the team developed an allocations spreadsheet which helped them to prioritise who needed to be seen first. They then managed and reviewed all green RAG young people on the waiting list. This resulted in a 34% reduction in young people waiting for their first appointment (Figure 9).

Figure 9 – Newham Child and Adolescent Mental Health Service: Triage to first appointment waiting list

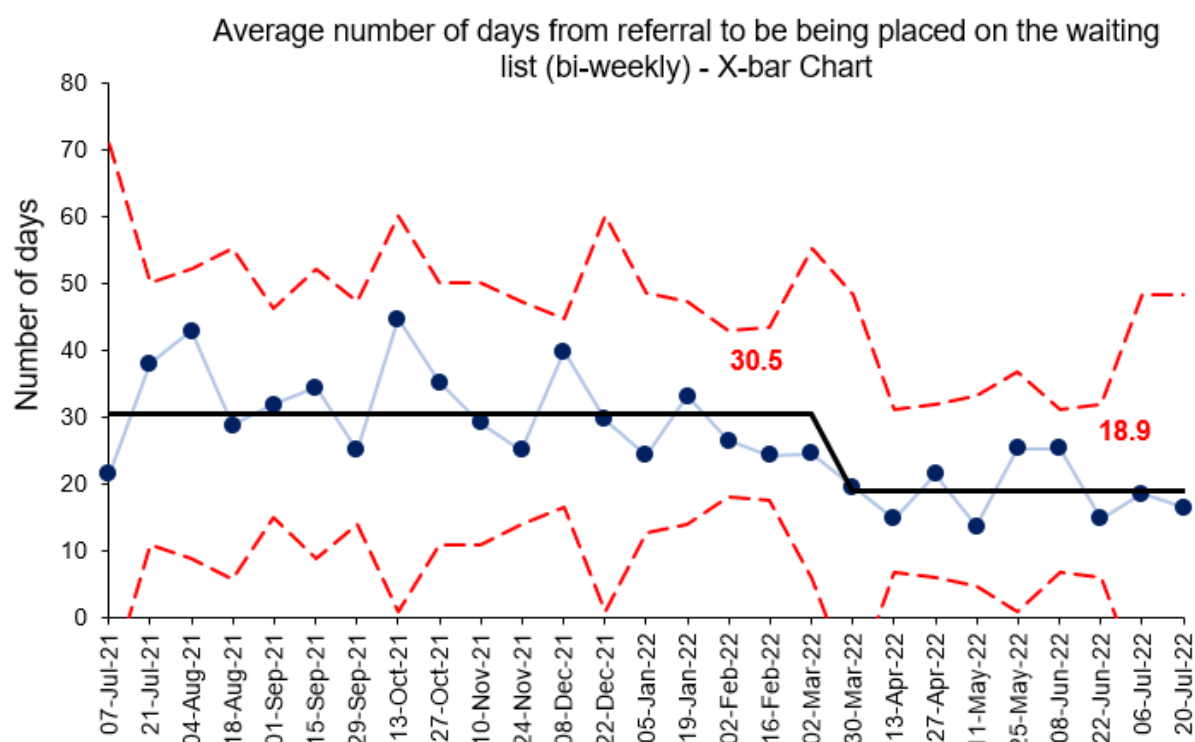


Change idea 4: Referrals pack

The Tower Hamlets Autism Service aimed to reduce time that people wait from referral to autism assessment by 50% in 12 months. To address duplication and reduce steps in their referrals process, the team introduced the “THAS pack” which contained all the screening forms and information needed to determine if someone was eligible for an assessment. They also agreed to close service users to the team after two weeks if the forms were not returned by the service user, and reopen once received, as opposed to sending opt-ins and chasing people.

After testing this idea, the team reduced the time that people wait from referral to being placed on the waiting list by 38% (see Figure 10), which means on average, people are waiting around 12 days less than before. Qualitatively staff also reported reduced admin time being taken on screening referrals, fewer cases requiring discussion in multidisciplinary team meetings, and reduced admin burden.

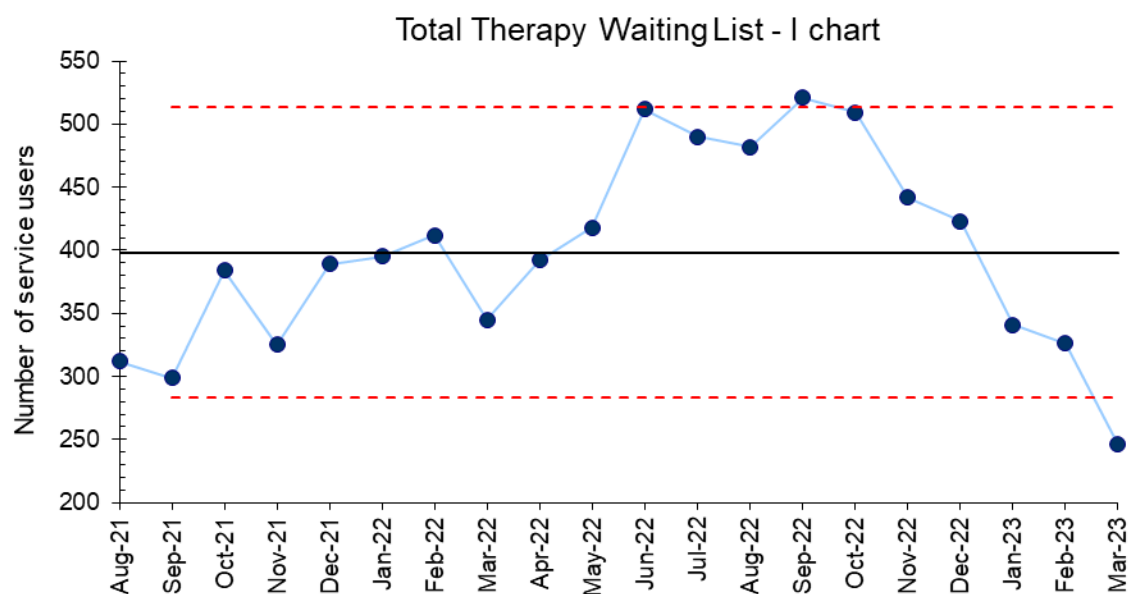
Figure 10 – Tower Hamlets Autism Service: Time from referral to being placed on the waiting list



Change idea 5: Increasing clinical capacity of therapists

The Tower Hamlets Extended Primary Care team saw an increase in service users waiting for an initial occupational therapy assessment due to a high vacancy rate and the impact of Covid. To reduce this waiting time, the team tested ideas around increasing the clinical capacity of their therapists. This began with them monitoring clinicians' daily clinical and non-clinical activity, which showed vast amounts of clinicians' time was spent on administrative tasks. The administrative team offered support to the therapy team by booking new patient assessments and writing and sending letters and correspondence to patients. The team also reviewed and standardised clinical and non-clinical staff activity. These change ideas have resulted in a downward trend in the number of people waiting for a therapy appointment (see Figure 11).

Figure 11 – Tower Hamlets Extended Primary Care: Total therapy waiting list



Additional resources

Stories and resources:

[Optimising flow programme](#) – stories from teams on our programme

[Improving access and flow](#) – stories from ELFT QI projects

[CAMHS](#) specific access and flow QI stories

[Resources](#) to improve demand, capacity, and flow

Published papers on improving demand, capacity, and flow

Stafford J, Aurelio M, Shah A. [Improving access and flow within Child and Adolescent Mental Health Services: a collaborative learning system approach](#). BMJ Open Quality 2020;9:e000832. doi:10.1136/bmjopen-2019-000832

Loveday WH, Panagiotopoulou L, Dineva D, et al. [Improving referrals to community mental health services in the liaison setting](#). BMJ Open Quality 2022;11:e001651. doi:10.1136/bmjopen-2021-001651

Adlington K, Brown J, Ralph L, et al. [Better care: reducing length of stay and bed occupancy on an older adult psychiatric ward](#). BMJ Open Quality 2018;7:e000149. doi:10.1136/bmjopen-2017-000149

Tan E, Shah A, De Souza W, et al. [Improving the patient booking service to reduce the number of missed appointments at East London NHS Foundation Trust Community Musculoskeletal Physiotherapy Service](#). BMJ Open Quality 2017;6:e000093. doi:10.1136/bmjopen-2017-000093