

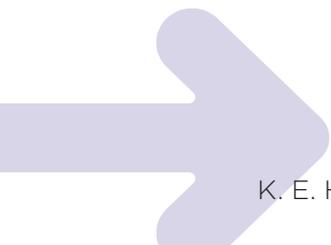
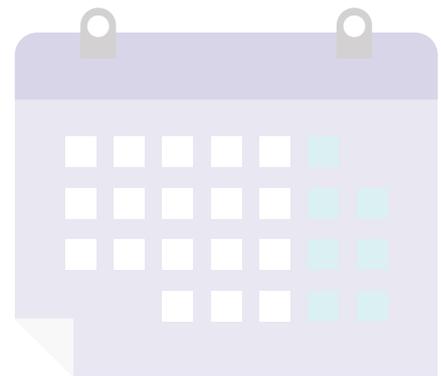
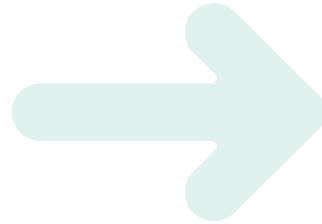
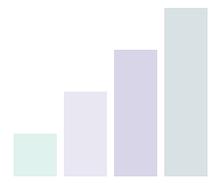
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Specific and Timely Appointments for Triage (STAT)

Handbook



Cite this work as: K. E. Harding, A. K. Lewis, D. A. Snowdon, N. F. Taylor & the STAT Research Group. (2018) *Specific and Timely Appointments for Triage (STAT) Handbook* Melbourne, Victoria: Eastern Health & La Trobe University

STAT Research group:

Katherine E. Harding,

Nicholas F. Taylor

David A. Snowdon

Annie K. Lewis.

Jennifer J. Watts

Leila Karimi

Mary O'Reilly

Bridie Kent

Michelle Kotis

Jackie Kearney

Luke Prendergast

Sandra G. Leggat

Acknowledgement: STAT is supported by a partnership between Eastern Health, La Trobe University and the Victorian Department of Health and Human Services, with funding from the National Health & Medical Research Council (APP 1076777).



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Staff at Eastern Health are gratefully acknowledged for their insightful comments that are used throughout this handbook to illustrate challenges and benefits of the model. 20 staff members were interviewed as a part of a qualitative study to explore their experiences and perceptions of the implementation of STAT at Eastern Health (2015-2017).



Part 1: Theory and evidence

Background

Waiting for care is an issue at every stage of the health continuum, from ambulance arrivals to access to nursing home beds

Elective surgery wait lists and long waits in emergency departments often hit media headlines, but patients also often wait for long periods for outpatient and community healthcare services. These services provide access to a wide range of care providers, including medical and nursing specialists, allied health professionals and multidisciplinary teams.

They support primary care providers in managing chronic conditions, facilitate the transition of patients from hospital back to the community, and offer alternative pathways to emergency presentations and inpatient care.

Long waiting lists for these services have a significant impact on the health sector and individuals in need of care. In some cases, patients experience deterioration in their condition while on waiting lists. For others, excessive wait time can lead to reduced chance of engagement or a missed opportunity to intervene at a key point.

Waiting has also been linked with anxiety and decreased levels of participation in employment and community activities.

Strategies commonly used for managing wait lists and reducing waiting time in healthcare services can often be ineffective or only successful under particular circumstances.



LONG WAITING LISTS FOR THESE SERVICES HAS A SIGNIFICANT IMPACT ON THE HEALTH SECTOR AND INDIVIDUALS IN NEED OF CARE

The injection of resources to boost supply of health services without any change in service delivery is a short-term solution only, with waiting lists continuing to increase over time. In a study published by Kenis (2006) in the Netherlands, for example, \$3 billion was made available on top of normal health funding for waiting list reductions from 1999–2001, which had no lasting impact. The number of people waiting for care five years later remained unchanged, suggesting that resources alone are not adequate to achieve lasting reductions in waiting times. There is a need for wholesale change in the way that services are delivered in order to have a sustainable impact on reducing waiting lists.

Triage systems that place new patients onto a wait list and use protocols to guide decisions about who should be seen next (Figure A) are another common response to addressing the problem of waiting for outpatient and community healthcare services but don't always improve patient flow as shown by a systematic review by Harding and colleagues (2011).



Part 1: Theory and evidence

Triage systems often show low levels of reliability and can divert resources from frontline care, inadvertently contributing to waiting time, as described by Kreindler (2008). It is difficult to evaluate the validity of triage systems, as there is often no 'gold standard' to assess whether those who have been allocated the highest category have the most urgent needs.

The concept of urgency or priority is dependent on the values of those making the decisions, requiring the person making the priority decision to weigh up competing factors, such as the condition of the patient, the likelihood of benefit from treatment, the needs of carers and potential access to alternative services.

Another problem with traditional triage systems is that they limit the scope of decision-making to compare the needs of patients at the point of access only and it does not consider the urgency of need for review, or follow-up, appointments.

If patients A and B arrive at the service at the same time, both are given a triage category that determines who is seen first. However, after the first appointment a review is booked, without consideration for competing demands for the same service.

Patient B may need a first appointment before patient A needs a review, yet the triage system does not accommodate the weighing up of these competing demands on the service.

Triage systems with no mechanism for moving low priority patients up the queue also run the risk of creating situations where the lowest priority patients will never be seen, as higher priority patients constantly move ahead in the queue.



Figure A: A common triage model in ambulatory, outpatient and community health services



Part 1: Theory and evidence

So what can be done to reduce waiting time?

There are opportunities in access and triage processes that can contribute to reduction of waiting times and improved patient flow.

- + **There is evidence from a range of health services that the ability to manage less resource-intensive cases and/or commence initial management at triage can have a positive impact on patient flow.** For example, if a problem is identified at the point of contact that can be addressed quickly and the triage provider has the skills to meet these needs, it is more efficient for the service and the patient to intervene immediately rather than placing the patient on a waiting list to be reassessed in the future. This requires triage to be conducted by somebody close to the face of service provision.
- + **Identify whether there is a true imbalance between supply and demand, targeting interventions accordingly.** Some wait lists are stable over time, which indicates that the number of referrals is roughly equal to the number of patients being discharged, but an ongoing backlog leads to constant delay (Figure B).
- + Triage systems are used to sort the patients who are waiting according to urgency, with triage and waiting list processes consuming resources and leading to further delays. If the backlog can be reduced or eliminated, with a system put in place to keep up with demand, it is possible to prevent waiting lists from building up again.

- + A good illustration of this principle at work is 'Advanced Access', a system that was designed for primary care. (Murray 2003)
- + This model does employ an initial injection of resources to manage the backlog, but this is then coupled with a system-wide change to maintain patient flow and prevent the waiting list from simply growing back. It has been shown to reduce the time to see a general practitioner in clinics with long waiting times from several weeks to one or two days.



IF THE BACKLOG CAN BE REDUCED OR ELIMINATED, WITH A SYSTEM PUT IN PLACE TO KEEP UP WITH DEMAND, IT IS POSSIBLE TO PREVENT WAITING LISTS FROM BUILDING UP AGAIN

- + **Reduce complexity in access, triage and booking processes.** Where triage processes are used, there is evidence that a simpler system, such as using only two categories for 'urgent' and 'routine' cases, is as effective and more reliable than a more complex, multi-category system. (Kriendler, 2008)

“OUR TRIAGING WAS A LOT SIMPLER, BECAUSE WE WOULD JUST SAY 'YES IT'S FOR OUR SERVICE' RATHER THAN HAVING TO SPECIFICALLY SAY WHEN TO SEE THEM, SO WE WERE JUST SEEING WHEN THE NEXT AVAILABLE APPOINTMENT WAS.”



Part 1: Theory and evidence

Triage systems only needed when demand exceeds supply

Sometimes, demand **exceeds** supply

Average time
from referral to
service delivery



But often, demand and supply are in **balance**
with a backlog of waiting patients

Average time
from referral to
service delivery

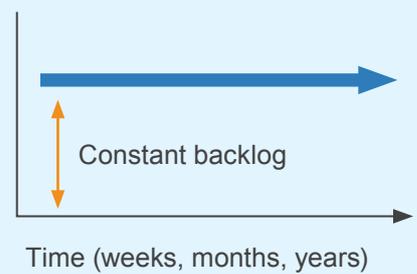


Figure B: Supply and demand relationship in health services

“ THEY WERE WAITING ANYWHERE BETWEEN 8-14 WEEKS. THAT’S SORT OF BEEN A STOCK STANDARD WAITING TIME OVER THE LAST THREE OR FOUR OR FIVE YEARS. ”



Part 1: Theory and evidence

What is STAT?

Specific and Timely Appointments for Triage (STAT) is an evidence-based alternative model for access and triage developed and tested by Harding and colleagues (2013, 2015, 2016). It is effective in reducing waiting times in many different types of health services, provided that they have the following two key characteristics:

1. The service is provided to the majority of patients over more than a single occasion of service, so that there is some flexibility in how the service is delivered. It is unlikely to be the answer to long waiting lists in a diagnostic service, for example, where every patient attends for a single standard 30-minute appointment. Some degree of flexibility to make decisions about the number, length or type of appointments is required.
2. The relationship between supply and demand is relatively stable. This is indicated by waiting lists that may be long, but have not changed significantly over time (see Figure B). Services with constantly increasing waiting times are likely to need a preliminary intervention, such as tightening of referral criteria or increasing supply, to achieve some degree of balance before STAT can be successful.



STAT: A COMMON MEDICAL ABBREVIATION FOR URGENT OR RUSH. FROM THE LATIN WORD STATUM, MEANING "IMMEDIATELY".

Principles of STAT

The letters of the STAT acronym provide an overview of key elements of the model.

S = SPECIFIC – Clinicians schedule a specified number of protected appointments in their weekly schedule for the specific purpose of assessment of new referrals. The number of these appointment slots is based on the typical demand for the service.

T = TIMELY – Clients are booked in immediately to the next available assessment appointment upon referral, without being put on a waiting list or use of any formal protocol-based triage system. The aim is for the client to be accepted into the service and given an appointment within a single point of contact (whether it be a letter or phone call), resulting in a patient-centred service that minimises duplication of processes.

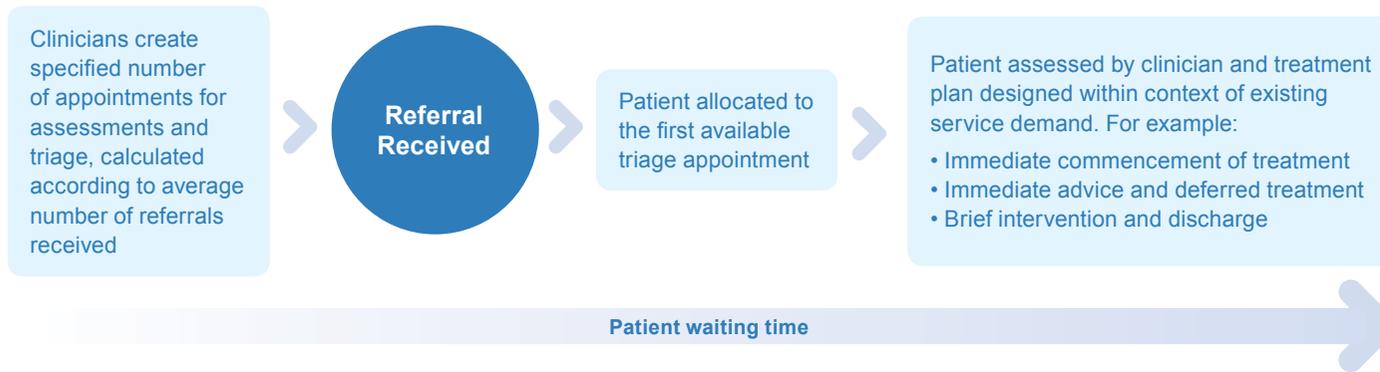
A = APPOINTMENTS – Early face-to-face appointments allow for early assessment and provide the clinician with a complete picture of the client's needs, avoiding the problems associated with low reliability of triage processes discussed previously in relation to written referrals. The first single session combines triage, initial assessment, early advice and initiation of treatment.

T = TRIAGE – Clinicians triage the client at the point of care, taking into consideration the relative priority of the new patient and those already under their care. This allows the clinician to use their own clinical judgement and make decisions in response to demand.



Part 1: Theory and evidence

Specific Timely Appointments for Triage (STAT)



Traditional Model: Waitlist and Triage



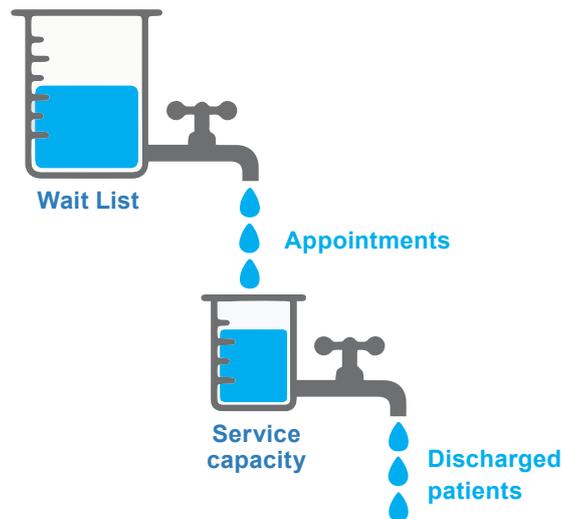
Figure C: Triage models – STAT vs wait list and triage



Part 1: Theory and evidence

Another way to think about the STAT model is to compare it to a system of flowing water. The system has an upstream tank that represents the waiting list, connected by a tap to a bucket that represents the service capacity.

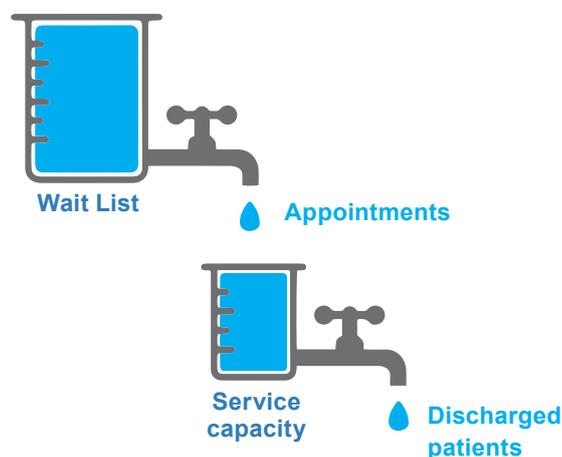
A stream of water that constantly fills up the tank represents new patients. Patients are 'discharged' by a tap releasing water from the service bucket. When the taps are all flowing at an equal rate, everything is nicely in balance.



However, if the capacity bucket starts to fill up, something needs to change.

The simplest solution is to slow down the flow from the waiting list tank and the service capacity bucket. This is the strategy used with the traditional 'wait list and triage' model.

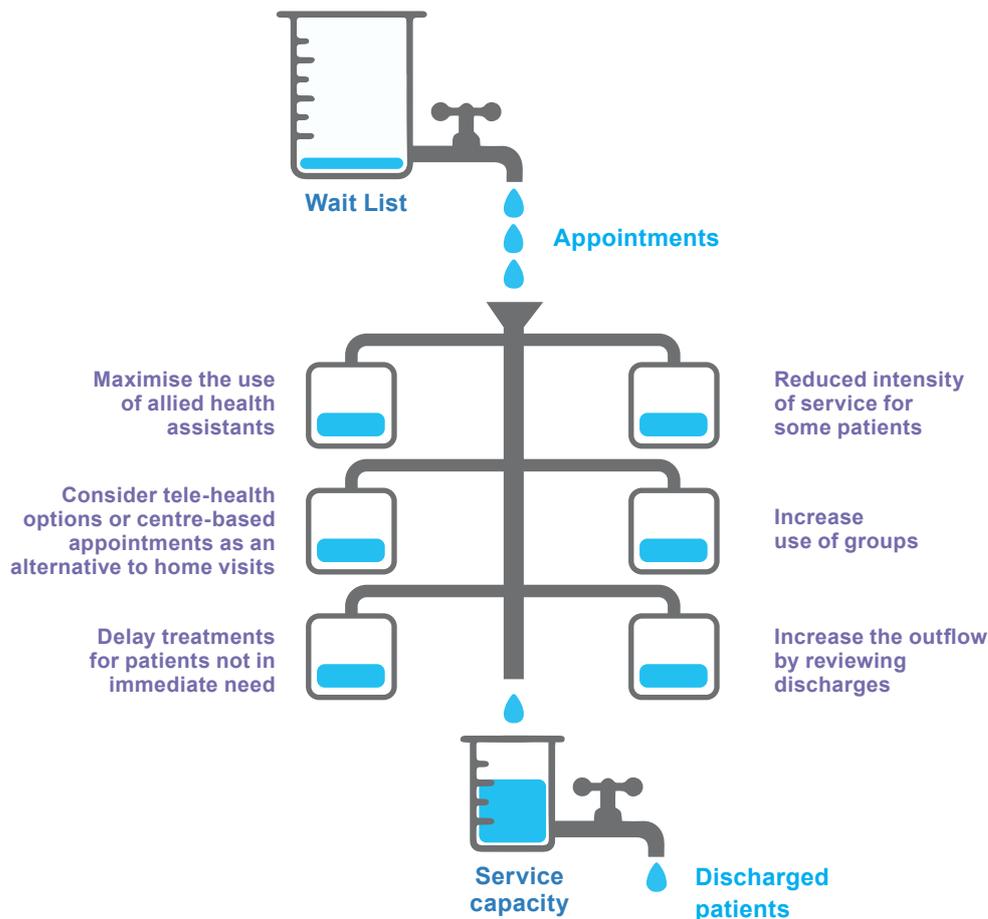
This restores the balance, but it isn't great for the patients waiting.





Part 1: Theory and evidence

STAT provides an alternative solution. Instead of turning off the tap, we keep up with the flow from the waiting list and get creative about finding other ways to relieve the pressure. Some examples are shown below.



STAT can only work if the flow into the waiting list tank is not excessively higher than the maximum possible outflow from all other possible sources. However, if a service has had relatively stable waiting lists in the past (even if the list has been long over an extended period), this is a good indication that flow rates in and out are quite similar.

Dealing with the backlog

Another issue for consideration is that a very full waiting list tank can provide impetus for change. Getting the flow in and out of each stage of the system may maintain balance, but it will be challenging to achieve real reductions in waiting time if the wait list is very long in the first place.

As a result, STAT usually requires a two-part approach to implementation. First, a one-off, targeted period of intervention to reduce the existing waiting list and then, once the backlog is cleared, the STAT model maintains the flow and prevents the waiting list tank from refilling.



Part 1: Theory and evidence

STAT model features

✓ Triage and initial assessment are combined at the first face to face appointment.

By combining triage with initial assessment, situations in which needs are discussed and identified under circumstances where they cannot be acted on (such as a phone call) are avoided. The person conducting the assessment has the opportunity and expertise to act on the issues that arise without delay or the need for handover.

✓ Ongoing service decisions are made in the context of current demand.

Whereas traditional wait list and triage systems tend to 'hide' patients on waiting lists so that they are 'out of sight, out of mind' to clinicians, STAT ensures that clinicians always have a current picture of the patients who are in need of their service.

This means that clinicians must actively prioritise how they allocate their treatment time, with the ultimate aim of spreading their resources so that they provide the greatest good to the greatest number of patients.

“NOW WE PRIORITISE THE PATIENTS WHO HAVE NEVER HAD ACCESS TO PHYSIO, AS OPPOSED TO PRIORITISING THE ONES ALREADY IN THE SERVICE. IT'S A REALLY GOOD WAY OF SHIFTING MINDSET.”

✓ Patients with minor needs can be treated promptly and discharged.

In traditional triage models these patients are often given low triage priority and made to wait long periods for treatment. Addressing these patients' needs quickly and discharging or referring on is efficient for the service and good for the patient. In addition, some patients and service providers can feel that a certain level of service may be needed to justify a long wait, creating a reluctance to refer on or discharge quickly, even if the service is unlikely to be of significant benefit.

✓ Clinicians have the autonomy and flexibility to allocate treatment or review appointments according to need.

Traditional wait list and triage systems often prioritise patients at the point of access, but then offer a relatively standard service once the patient has entered the service. For example, a physiotherapy service might typically offer an assessment, followed by weekly review appointments for a specified number of weeks or until goals are met.

A key component of STAT is that clinicians make decisions about service provision based on the demand of their own caseload and the relative needs of their patients. Those who are self-motivated, or less likely to benefit, may receive fewer appointments, making room for others who might benefit from a more intensive service.

✓ Supply and demand is balanced and transparent.

Balance is achieved by scheduling a set number of new assessments each week that are carefully calculated according to the historical demand of the service. The time from referral to service provision is always transparent, as it is defined by the time to the next available appointment, rather than a number on a waiting list.

✓ More time spent with clients and less time on administration.

The removal of unnecessary triaging steps and processes associated with managing and monitoring waiting lists increases time available to be spent with clients.

✓ Alignment to strategic directions in healthcare.

Strategic directions and values underpin healthcare organisations. STAT aligns with values such as client-centred care, high-quality care, responsiveness and agility, and equity of access to service. The model also incorporates transparency and accountability of service providers.



Part 1: Theory and evidence

STAT works: The evidence

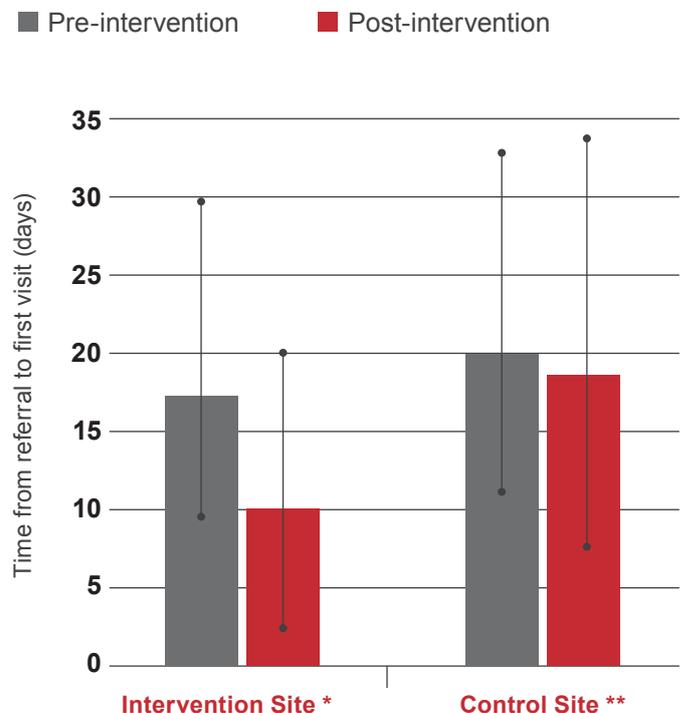
The individual components of STAT are based on evidence from patient flow literature. Evidence is also now available from studies conducted by Harding and colleagues (2013, 2016), which together demonstrate the STAT model has typically reduced wait time in the order of 30 to 40 percent in a wide range of ambulatory services

Trial one — community rehabilitation program

STAT was initially tested using a controlled before and after trial design in a community rehabilitation program in 2010 (Harding et al, 2013). This service operated over several different sites within one large metropolitan health service in Melbourne, Australia. Pre-intervention data was recorded at two sites.

The model was then introduced at one of the sites, while usual care continued at the other. The backlog was addressed by taking advantage of seasonal fluctuations, introducing the intervention at the time of year when waiting time was typically at its lowest level. No additional resources were used.

Mean waiting time was reduced by approximately 40 percent, from 17.5 to 10 days at the intervention site, with no significant change at the control site. Another way of viewing the findings is that patients at the intervention site were more than three times as likely to receive an appointment within seven days compared to the control site (Odds Ratio 3.2, 95 percent CI 2.2–4.9) after STAT was introduced.



* Mean difference intervention site: 7.5 days, (95% CI 5.8-9.2, p<0.001)

** Mean difference control site: 1.9 days (9.5% CI -0.5 to 4.3, p=0.12)



MEAN WAITING TIME WAS REDUCED BY APPROXIMATELY 40 PERCENT, FROM 17.5 TO 10 DAYS AT THE INTERVENTION SITE



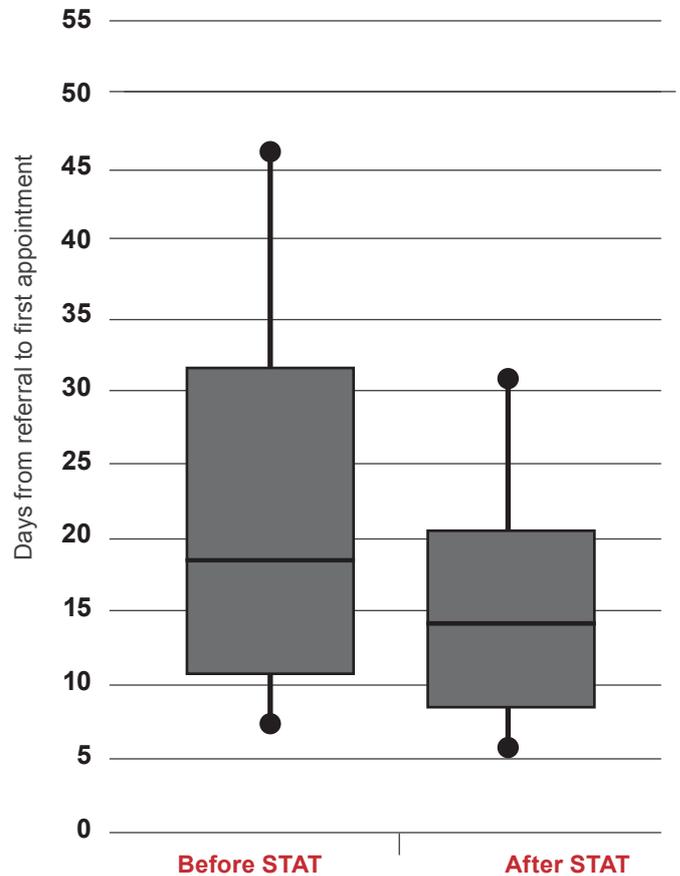
Part 1: Theory and evidence

Trial two – outpatient physiotherapy clinic

A second trial was completed in an outpatient physiotherapy clinic at Maroondah Hospital, a tertiary hospital in the outer eastern suburbs of Melbourne (Harding and Bottrell, 2016). Again, there were no additional resources available for backlog reduction in this service; clinicians achieved reductions by making a concerted effort over six weeks to see as many patients on the waiting list as possible. Other activities such as project work were temporarily suspended, patients were discharged quickly wherever possible and new appointments were prioritised. Staff acknowledged that they worked hard during this period, but felt that the effort was manageable given that it was for a defined period of time.

Waiting time for this service was 22 percent lower in the year following the introduction of STAT, with a median wait time of 14 days, compared to the year prior when the median wait was 18 days. The greatest impact in this service, however, was on the patients who would have previously waited the longest.

Prior to the introduction of the STAT model, 25 percent of patients waited more than 34 days for their first appointment, whereas after STAT 75 percent had their first appointment within 21 days. This finding suggests that those with urgent needs were seen relatively quickly regardless of the model of access, but STAT prevented those with less urgent needs from sitting on waiting lists for extended periods.



Time from referral to first appointment over a corresponding 9 month before and after implementation of STAT in an outpatient physiotherapy service. (Boxes indicate 25th and 75th percentiles, whiskers represent 10th and 90th percentiles)



**WAITING TIME FOR THIS SERVICE
WAS 22 PERCENT LOWER IN
THE YEAR FOLLOWING THE
INTRODUCTION OF STAT**



Part 1: Theory and evidence

Trial three – a stepped wedge cluster randomised control trial (2015–2017)

Following the success of previous trials, Harding and colleagues (2016) tested STAT in a large, stepped wedge cluster randomised controlled trial funded by a National Health and Medical Research Council (NHMRC) Partnership for Better Health Grant, involving Eastern Health, La Trobe University and the Victorian Department of Health and Human Services.

Eight ambulatory and community services were included in the study, including three multidisciplinary specialist clinics, four community health services (three paediatric, one adult) and one outpatient physiotherapy clinic. The services were placed in random order and the intervention was introduced to one service at a time, at one-month intervals.

Stepped wedge trial designs are widely accepted for testing health service interventions, where traditional randomised control trials are not always practical.

This trial differed from the projects discussed above in that resources were available to assist with the reduction of the existing backlog. A small budget, equivalent to five to ten percent of the annual service staffing budget, was made available and used for targeted interventions, specifically designed for each service.

For example, paying part-time staff additional hours, employing additional temporary staff, contracting out some services privately and increasing administrative support to audit the waiting list.

BLOCKS OF TIME - EACH BLOCK REPRESENTS A FOUR WEEK PERIOD

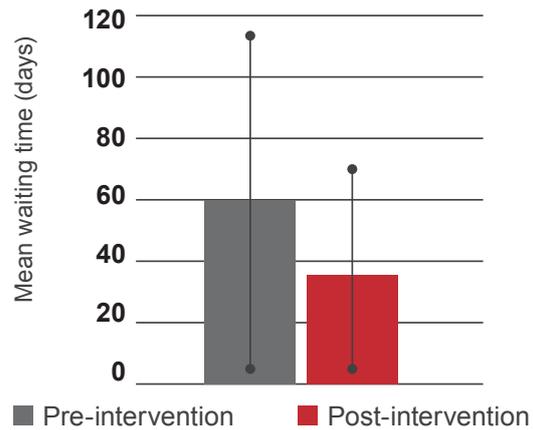
Site No.*	Oct-Dec 2015	Feb-Nov 2016	Dec 2016- Mar 2017											
1	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
2	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
3	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
4	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
5	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
6	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
7	Pre-intervention data collection	Implementation Period	Post-intervention data collection											
8	Pre-intervention data collection	Implementation Period	Post-intervention data collection											



Part 1: Theory and evidence

The trial involved 3116 participants and the primary outcome was the time, in days, from referral to first appointment. A 34 percent reduction in waiting time (IRR* 0.66, 95 percent CI** 0.63 t 0.70) was attributed to the intervention, once clustering of the services was taken into account.

Waiting time before and after STAT implementation across 8 sites

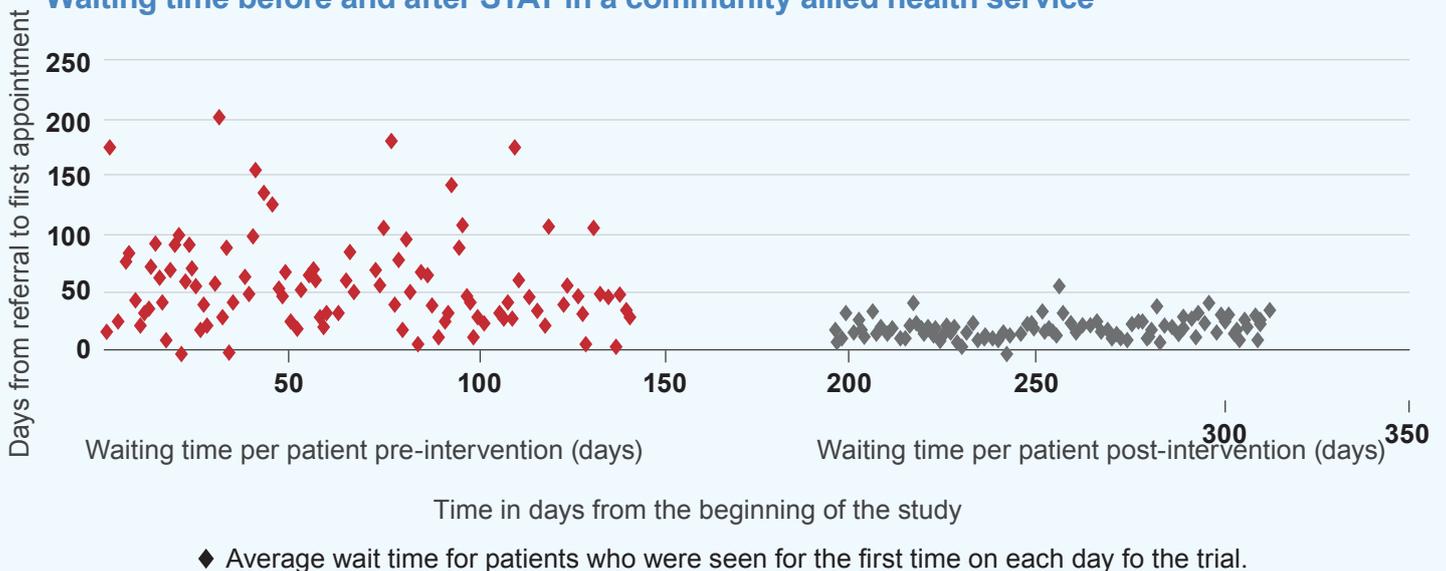


A 34 PERCENT REDUCTION IN WAITING TIME WAS ATTRIBUTED TO THE INTERVENTION, ONCE CLUSTERING OF THE SERVICES WAS TAKEN INTO ACCOUNT

Significantly, the standard deviation of waiting time was also reduced across all services, reinforcing the finding of the previous study in physiotherapy outpatients that STAT reduces the likelihood of low priority patients having to wait excessive periods for treatment. The scatterplot below illustrates this from the perspective of one of the services.

The dots to the left indicate waiting time per patient prior to STAT and the dots to the right represent waiting time afterwards.

Waiting time before and after STAT in a community allied health service



*Incidence Rate Ratio **Confidence Interval



Part 1: Theory and evidence

Several secondary outcomes also measured in this study indicated that:

- + There was no change in time between the first and second appointment, allaying concerns raised by some clinicians that STAT would simply shift the wait from 'referral to assessment' to 'assessment to treatment'.
- + STAT was associated with a small increase in non-attendance rate at some sites. This is likely to be because many patients were previously placed on waiting lists for several weeks, then contacted with an appointment time with just a few days' notice. With STAT, appointments were given immediately on referral but may still have been two to three weeks away, providing more opportunity for patients to forget their appointments. STAT may have also provided less opportunity for natural attrition; with patients experiencing long waits deciding not to proceed, rather than accepting an appointment then failing to attend.
- + There were no observable changes in patterns of service delivery within the first 12 weeks after referral, such as the number of appointments or rate of discharge.
- + Wait times achieved immediately after the intervention were shown to be sustained over 12 months.

“ INSTEAD OF MANAGING THE WAITLIST, I’VE GOT OTHER WORK THAT I’M DOING NOW WHICH IS MORE CONSTRUCTIVE FOR THE TEAM. ”

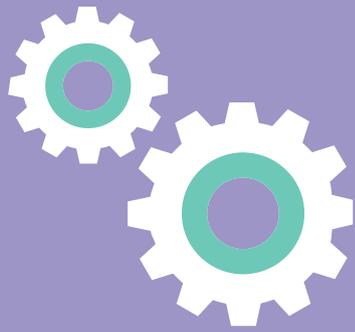
Staff feedback

Overall, clinicians have reported a range of benefits from the introduction of the STAT model, including more flexibility and increased efficiency in managing caseloads. In the qualitative evaluation of STAT (Harding et al 2013), clinicians acknowledged that implementing the STAT model can be challenging in the initial phase, but with appropriate change management strategies the workload became manageable.

Staff feedback following the more recent stepped wedge RCT indicated that staff agreed that the benefits of the model included improved waiting time, a more responsive service, and improvements in flexibility of service delivery and increased efficiency in booking processes.

They also agreed that the major challenges were related to the management of review appointments and, in some cases, this was a significant cause of stress for some clinicians. In general, clinicians who were looking for a better service model, seeking out efficiencies in their practice and opportunities to improve patient outcomes, had a positive experience using the STAT model.

Adequate support of clinicians to adjust to changes in processes – particularly in relation to review appointments – is essential to the success of the implementation of the STAT model.



Part 2: Implementing STAT

Implementation of the STAT model requires a coordinated effort, involving all team members.

Steps to implementation:



1. Gather data



2. Calculate demand



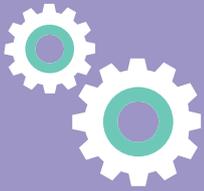
3. Reduce backlog



4. Create appointments



5. Establish a new workflow



Part 2: Implementing STAT

Step 1: Gather data

The first step in implementing STAT is to develop a good understanding of the following:

- + The average number of new referrals to the service (with careful consideration of predictable fluctuations) to indicate the number of new patients that need to be seen each week in order to keep up with demand.
- + The stability of demand over time.
- + The stability of the waiting list over time – that is, has waiting time for the service increased, decreased or remained the same?

It is important to collect data over at least one year to ensure that seasonal fluctuations are noted. Two or three years' data is recommended to assist in analysing fluctuations and patterns in demand. Break down the demand by discipline if a service is multidisciplinary.

Data required to calculate demand:

- + The number of referrals per week/month/year.
- + Predictable fluctuations in demand – for example, paediatric services may be influenced by school holidays, respiratory services influenced by winter flu season, etc.
- + The number of patients who miss appointments – sometimes known as the 'failed to attend' (FTA) rate or 'did not arrive' (DNA) rate.
- + The number of referrals that never get seen, either because they are rejected by the service or the patient declines the service before receiving an appointment.
- + The average time from referral to first appointment, broken down into time periods (preferably months or quarters, but annual figures are better than nothing if you have data over several years).



IT IS IMPORTANT TO COLLECT DATA OVER AT LEAST ONE YEAR TO ENSURE THAT SEASONAL FLUCTUATIONS ARE NOTED

At this stage, you are primarily interested in the number of patients who require a new assessment appointment under the STAT model. Initially, this includes patients who attend the first appointment and also those who have an appointment but fail to attend.

It won't include those who are referred, but never use an appointment, either because they are rejected, withdraw before getting an appointment or cancel their appointment in time to rebook.

You will also need an estimate of the supply available to the service:

- + The services' overall equivalent full-time (EFT) staff.
- + The total number of staff and whether they are part-time or full-time.
- + Predictable service disruptions/fluctuations – for example, periods of low activity/high leave, such as Christmas holidays.

Preliminary questions to ask yourself based on initial data collection:

- + Has the average waiting time changed over time? If it has increased substantially, you may need to review the balance between the supply and demand for the service before proceeding with STAT. If it has remained reasonably stable (less than 10 percent increase annually), you are ready to proceed.
- + Do you have the data you need to have a good understanding of your service's supply and demand? If not, how can you get it? It is essential that you can gather accurate data before proceeding with the introduction of STAT.



Part 2: Implementing STAT

Step 2: Calculate demand

The next step in the introduction of STAT is to determine how many new assessment appointments are required to keep up with demand

The key principle is to determine the average number of new referrals per week and divide this by the number of EFT available in the service. This will establish the number of STAT appointments required to meet service demand. However, consideration also needs to be given to the following:

- + Allocate STAT appointments appropriately to **part-time versus full-time clinicians**.
- + The **experience of clinicians**. In some services it may be more appropriate to allocate fewer appointment slots to less experienced clinicians who may require more time.
- + **Add some buffer to the system to allow for staff being unavailable** for some appointments. Everyone is entitled to annual leave and there will be times when a scheduled appointment is unavailable due to professional development or staff illness. Rather than constantly trying to 'catch up' when a staff member is away, STAT works best when additional appointments are built into the system to allow for this.

In average-sized services, an addition of approximately 12 to 15 percent above the number of calculated STAT appointments allows for a sufficient buffer to comfortably compensate for these predictable 'lost' appointments. In small services with a number of part-time staff, sick leave and public holidays can have a greater impact and a larger adjustment may be required.

- + **Consider the rate of patients who fail to attend appointments** and the policies for dealing with this. In services that have a high FTA rate and in which clients who don't attend are always offered new appointments, extra new client spots will be required to compensate. Services with a low FTA rate or strict policies that limit rebooking of these appointments will not need to make such significant adjustments.

Worked Example

Service X has 4 full time clinicians and 1 part time (0.5 EFT) clinician.

The service receives 775 referrals per year.

The number either rejected or withdrawn, prior to receiving an appointment time is 55.

Required number of appointments for the year is $775 - 55 = 720$.

Divide by 52 to calculate the weekly number of required appointments $720 \div 52 = 13.85$

To provide a buffer and allow for leave and public holidays, add 15% $(15 \div 100) \times 13.85 = 2.08$

+ Then $2.08 + 13.85 = 15.92$

+ Round up to 16 appointments/week for the service

Calculate allocation for each clinician, with EFT being 4.5. $16 \div 4.5 = 3.55$ appointments per 1 EFT.

Decide on practical allocation, for example

- + 7 per fortnight for full time clinicians and 4 per fortnight for part time clinician. There may be some agreed considerations such as a greater allocation of "low intensity" referrals to the part time clinician.

What if the final number is unachievable?

What happens if the number of appointments required exceeds a realistic workload for clinicians?

We can't create more hours in the day. The expectation is not to make people work harder.

If the final number is unachievable, the service has a true imbalance between supply and demand and compromises will need to be made.



Part 2: Implementing STAT

Options to consider

- + Reduce demand
 - Tighten referral criteria
 - Divert some patients to another service
 - Consider the core business of your service and whether you intend to stick to it. Health providers can sometimes be guilty of wanting to do 'all things for all people', and in resource-constrained environments, this may not always be possible.
- + Increase supply
 - Look for efficiencies – are there ways to work smarter?
 - Review model of care. For example, weigh up the alternatives of providing a little less service or treating more people in groups, versus having some people wait a long time for treatment. Perhaps neither is ideal, but which is the lesser evil?
 - Can failure to attend policies be tightened, or other strategies such as SMS reminders be used to reduce non-attendance rates?
 - Make a case for expanding the service. This is not a quick fix but now you have the data required to put forward a strong argument.
- + Retain a waiting list. This is often the default position and might sometimes be the only option. Sometimes service providers may decide that there is no better alternative. However the important thing is that a decision to retain a waiting list is an active decision – made after weighing up all the options – not an automatic default.



OUR RECOMMENDATION IS TO CALCULATE THE NUMBER OF STAT APPOINTMENTS REQUIRED BY A SINGLE DISCIPLINE

Calculating demand for multidisciplinary services

Some healthcare organisations offer a multidisciplinary service, in which patients might be referred to either a single discipline or multiple disciplines. Or health professionals may want to refer to each other. It is up to each service to work out the best way to manage this.

Our recommendation is to calculate the number of STAT appointments required by a single discipline. On referral, patients can be booked into STAT appointments for one or more disciplines (according to their preference). STAT appointment slots can also be used for interdisciplinary/intra-team referrals in the same way that they are for new referrals, either directly by the referring clinician or by the intake worker receiving the referral.



WE DID CALCULATIONS ON WHAT WE NEEDED TO CREATE THIS KIND OF IN-FLOW OUT-FLOW THAT WAS APPROPRIATE FOR THE SERVICE AND THAT MEANT THE WAITLIST WASN'T GROWING AND GROWING AND GROWING.





Part 2: Implementing STAT

Step 3: Reduce backlog

The backlog of patients currently on the waiting list needs to be addressed before the STAT model can be successfully introduced. It is also important to decide in advance the ideal 'target time' from receipt of referral to first appointment, based on factors such as clinical evidence and consultation with service users

The ideal time will vary from service to service. For example, people accessing a service as part of a hospital discharge plan might typically need a week to settle in at home before their first appointment.

A service that provides developmental assessment for preschool children may consider two to four weeks to be ideal, given the condition is unlikely to change over that time period and parents are likely to need time to plan appointments.

An individualised approach needs to be taken to reduce the backlog at each service. Solutions will be unique to each service, with the aim to reach the 'ideal' target time for referral to first appointment before progressing to Step 4.

'Bottle necks' within each service must be identified and addressed, and service providers need to work together to work out targeted strategies that are likely to make the biggest impact on reducing the number of patients waiting to be seen. It may be necessary to factor in a 'one-off' injection of funds over a short period to prepare for commencement of STAT.

“ DEFINITELY HAVING THE WAIT LIST CLEARED MADE A HUGE DIFFERENCE- IT TOOK THIS LOAD OFF. IT WAS LIKE OH, WE'RE AT SCRATCH. THIS IS AMAZING. ”

Some possible backlog reduction strategies might include the following:

- + 'Blitz clinics' – set aside days to assess clients on the waiting list.
- + Waiting list audits – contact clients on the waiting list to see if there are some people who no longer require the service.
- + Additional short-term staff members to address key areas of need.
- + Extra hours for existing part-time staff with capacity over a short-term period.
- + Additional clinics (limited number) outside of normal business hours.
- + Take advantage of seasonal fluctuations.
- + Temporarily suspend other activities to focus on the waiting list for a defined period.
- + Other ideas – think outside the box!

Remember

- + It's important to involve staff when coming up with strategies and to stress the 'one-off' nature of this intervention to clear the backlog. Staff will be willing to take on extra clients or temporarily reduce time spent on other activities if they know why they are doing it and how long it will go on for.
- + When given the opportunity, staff will often come up with the best ideas about how to achieve backlog reductions.



**SOLUTIONS WILL BE UNIQUE
TO EACH SERVICE**



Part 2: Implementing STAT

Step 4: Create appointments

STAT works on the principle that appointments are 'ready and waiting' in clinicians' diaries to be allocated to new patients

Electronic diaries are ideal for creating appointments for new clients, with the specified number of recurring time slots for new patients clearly indicated.

Clinicians generally have the freedom to schedule their own days and choose when they would like to schedule appointments for new clients, although there may be some constraints to scheduling within individual services. For example, lack of availability of cars for home visits, or restrictions on clinic rooms may limit when appointments can be scheduled.

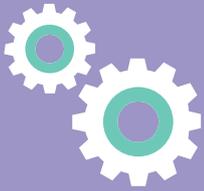
Flexibility in setting up diaries is quite acceptable, so long as the correct number of new client appointments is available over a week or month.

MON	TUES	WED	THUR	FRI
New client			New client	
New client			New client	
	New client			
New client	New client			
	New client		New client	
			New client	

Additional rules regarding scheduling might be agreed upon, such as:

- + The process for reallocation of unused appointments. For example, if a new appointment has not been filled three days prior to the appointment, the clinician can fill it for another purpose.
- + New appointment slots can be moved around within a given week, but not completely removed.
- + Some spots may be reserved for specific categories of patients. For example, different clinical or funding streams, emergency assessments etc.
- + Seasonal variations – all clinicians might be expected to add one additional new patient slot in winter months for a service that receives additional referrals at this time of year. Non-clinical work, such as project or quality activities, might be scheduled around this time to support the service to manage known variations in demand.
- + If a clinician has an unplanned absence, priority should be given to covering those patients booked in for 'STAT appointments', where possible. If other clinicians cannot attend to these new patients, they will be rescheduled to the next available STAT appointment.

“ IT MEANT THE CLINICIANS WERE REALLY BUSY FOR A WHILE THERE BUT IT SEEMED TO WORK. MAYBE BECAUSE EVERYONE HAD THAT SENSE OF PURPOSE, WE WERE DOING IT FOR A REASON. ”



Part 2: Implementing STAT

Step 5: Establish a new workflow

Streamline the access and booking process

A key element of STAT is minimising any processes performed prior to the client attending their initial appointment. The goal is to get the client in front of a clinician as quickly and efficiently as possible

To achieve this, providers within each service need to identify the processes that must be performed prior to the initial appointment. The emphasis at this time needs to be on eligibility rather than priority for the service. There are likely to be other processes considered to be essential to the service, such as registering the client on a service database or creating a file.

Analysing the intake and booking system.

In contrast, service providers should minimise completion of tasks that are not necessary prior to seeing the client and, in particular, those likely to be duplicated during the first assessment.

For example, it may be necessary to ask a potential new patient about the history of their condition if this information is required to establish eligibility for the service. However, if eligibility has already been established, such questions will be asked by the assessing clinician at the first appointment and gathering and documenting that information at the point of acceptance to the service may not add any value to the patient journey.

Once a referral is received and deemed eligible for the service, the intention is that clients are booked into the first available appointment, which should now be within an acceptable timeframe. Ideally, the client should receive an appointment time as part of their first contact with the service, either via a phone call or letter.

FIND OUT...	AND THEN ASK...
How are clients booked in?	Is the booking system transparent? Equitable? Aligning with standards?
Who assesses eligibility and books clients into appointments?	Are these processes combined? If not, can they be? Is the person with the lowest acceptable level of qualification/skill undertaking this task, preserving the time of the most skilled members of the workforce to see patients?
What steps are taken in the process of accepting, registering, prioritising and booking patients and why?	Are all the steps essential if there is no lengthy wait list? Can some steps be left to the first appointment? Is there any duplication? Remember that the most effective triage takes place at the first face-to-face appointment when the clinician has the full story.
How is the distinction made between <i>eligibility</i> and <i>priority</i> when processing referrals?	Is this clearly understood in the access and booking process? Steps required to determine <i>eligibility</i> are likely to be essential prior to booking. <i>Priority</i> decisions can be made in different ways and at different times.



Part 2: Implementing STAT

Triaging at first appointment / initial assessment

Under the STAT model, both the initial assessment and triage of the client takes place at the first appointment. This allows the clinician to determine the urgency of client care based on a thorough assessment and in relation to their current caseload.

It is important to understand that clinicians should not feel under any obligation to see the client immediately for ongoing care if their needs are deemed to be of lower priority than other patients already on the clinician's caseload. In fact, a key part of adapting to the STAT model is for clinicians to actively consider the priority of new patients relative to others already on their caseload.



UNDER THE STAT MODEL, BOTH THE INITIAL ASSESSMENT AND TRIAGE OF THE CLIENT TAKES PLACE AT THE FIRST APPOINTMENT

This will be challenging at first, particularly in services where clinicians are accustomed to providing a 'standard' package of care, involving a given number of appointments over a set timeframe once a patient enters the service.

The options available to a clinician for management of a patient after the initial assessment will vary from service to service.

“ GETTING CLIENTS IN EARLY REDUCED PARENTS' ANXIETY AND PREVENTED THE PROBLEM FROM WORSENING. SOMETIMES THEY ONLY NEED TO BE SEEN ONCE. PEOPLE GET INTO THE SERVICE EARLIER AND GET ADVICE EARLIER SO I THINK THAT'S A POSITIVE THING FOR PATIENTS. ”

“ YOU MIGHT JUST HAVE TO BE A BIT MORE CREATIVE WITH YOUR SESSION, SHOWING THEM HOW THEY CAN PROGRESS A BIT FURTHER OR JUST ACCEPT THAT WE DON'T HAVE THAT CAPACITY TO SEE THEM AS OFTEN BUT THE PRO IS THAT WE ARE SEEING MORE PEOPLE SOONER, WHICH I THINK IS MORE OF A PRIORITY. ”

Some possibilities might include:

- + **Brief intervention or reassurance and discharge** – In services with long waiting lists, clinicians can be reluctant to take this option. They may feel that if a patient has waited six months to see them, they need to make the service worth waiting for regardless of the patient's needs. If patients have been given an initial appointment quickly, it is much easier to provide advice and reassurance to patients in lesser need of the service.
- + **Referral into the most appropriate service or part of the service** – At the initial STAT appointment the clinician has the opportunity to fully understand the patient's needs and determine whether or not it is the right service for the patient. If not, what is the best and most efficient pathway through the service for the patient? For example, can the patient be treated as part of a group?
- + **Immediate commencement of treatment** – Some patients will require immediate commencement of regular or intensive treatment. Early face-to-face assessment determines the patient's need so that resources can be allocated accordingly.
- + **Delayed treatment** – Some patients may clearly benefit from the service, but may not require the service immediately. They may not be ready for intensive intervention. They may be able to wait without adverse outcomes, or they may be capable of taking an active role in self-management of their condition. Future follow-up appointments may be scheduled after a specified time, with education, advice, review phone call or a home program offered in the interim.



Part 2: Implementing STAT

Caseload management

For STAT to be successful, **appointments reserved for new assessments must always be protected for new clients**, and review clients must be booked around these times.

A key difference with managing a caseload under STAT compared to a wait list model is that priority decisions occur primarily in relation to review appointments, rather than new patients. Clinicians need to constantly make active decisions about who is in most need of their service at a given time.

For example, consider a situation where patients A, B, C and D are referred to a service. Under the previous 'wait list and triage' system, A and B are 'Priority 1' and C and D are lower priority patients, who are put on a waiting list. As each get their turn to enter the service, they go on a schedule of weekly therapy for the standard period of eight weeks.

Under a STAT model, all four patients are given an assessment appointment within a relatively short period. A is identified as having urgent needs and commences with twice-weekly therapy for three weeks, which is then reduced to once a week.

B was not quite as needy as might have been expected from the referral, but goes onto a weekly schedule with a plan to review in four weeks. C turns out to be a very capable and motivated patient – she can be given a home program with fortnightly review. D is considered to be unlikely to benefit much from the program.

He is given some advice and reassurance, referred to a relevant health promotion group in his local community and leaves happy.

“ I MIGHT DO AN ASSESSMENT & ONE TREATMENT SESSION, & THERE MIGHT BE A BIT OF A DELAY BUT I ALWAYS GIVE THEM HOMEWORK SO THEY HAVE SOMETHING TO GO ON WITH, & THEN COME BACK & SEE ME AGAIN. ”



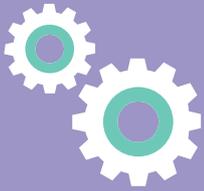
A KEY DIFFERENCE WITH MANAGING A CASELOAD UNDER STAT COMPARED TO A WAIT LIST MODEL IS THAT PRIORITY DECISIONS OCCUR PRIMARILY IN RELATION TO REVIEW APPOINTMENTS, RATHER THAN NEW PATIENTS.

The example is simplistic, but it illustrates how decisions about priority are shifted from access to ongoing management. All four clients received similar access to the service with minimal waiting time, but priority decisions were still made in relation to their care. Instead of all four receiving weekly appointments, the appointment slots that might have been taken by D in the previous system are used to provide additional time for A.

It could be expected that most clinicians already make decisions about discharge and frequency of service for their patients in many different types of services. However, the STAT model places an even stronger emphasis on this process. If new patients continue to enter the service at a steady rate, there will be times when review appointments need to be rationed, and clinicians will need to make tough decisions about who needs the service least.

Although this may not be ideal, we are essentially balancing the relative disadvantages of waiting excessive times with compromises on service provision for some patients during high demand periods. Some clinicians will find this adjustment challenging and leadership and support will be needed through this process.

Anticipating some of these challenges and problem-solving as a team may be useful.



Part 2: Implementing STAT

Ongoing monitoring of the supply/ demand balance

It is necessary to continually monitor the number of new appointments available and measure them against the incoming referrals. The STAT model makes this easy – when there are more referrals coming in than scheduled appointments, the time to the next available appointment increases.

“ SO I THINK WE NEED TO HAVE A GOOD LOOK AT WHAT IS REASONABLE AND WHERE WE NEED TO DRAW THE LINE AND WHERE WE NEED TO STOP JUST INFINITELY SEEING MORE PATIENTS. ”

If there is a consistent problem with insufficient appointments, reviewing the number of available initial appointments may be necessary. Decide upfront on a ‘tipping point’ to trigger a discussion and review of supply and demand.

For example, once the time to the next available appointment exceeds a pre-determined threshold, a review of recent demand data is triggered to determine whether this is a temporary spike or an ongoing trend. Appropriate action can then be taken to re-establish the balance.

Conversely, there may be times when there is a slowing of demand and patients are not booked into all of the available initial appointment times. Service providers need to set rules on how to manage this situation. For some services it may work best to consistently keep STAT appointment slots open, regardless of whether they are filled.

Clinicians can use these slots for report writing or other non-clinical activities. Other services may find it useful to set a rule to say, for example, STAT appointments that are not filled 48 hours prior to the appointment time can be filled with a review client.

Consistent recurrence of empty STAT appointments suggests an overestimation of appointments required and an adjustment may be required.



IMBALANCES BETWEEN SUPPLY AND DEMAND QUICKLY BECOME OBVIOUS IF THE TIME TO THE NEXT AVAILABLE APPOINTMENT STARTS TO INCREASE

Driving efficiencies

When introducing the STAT model, clinicians are likely to find themselves initially under pressure to keep up with the demand. Actively prioritising review appointments is one important strategy to address this, but there may be other ways to help make the most of the available supply.

One benefit of the STAT model is that it provides transparency in relation to demand for the service. Once staff begin to see how many people require the service at a given time, this acts as a driver to look for efficiencies to maximise the time available.

There are often opportunities for staff and managers to alter practice in other areas, considering efficiencies throughout the workflow will optimise the chances of success.

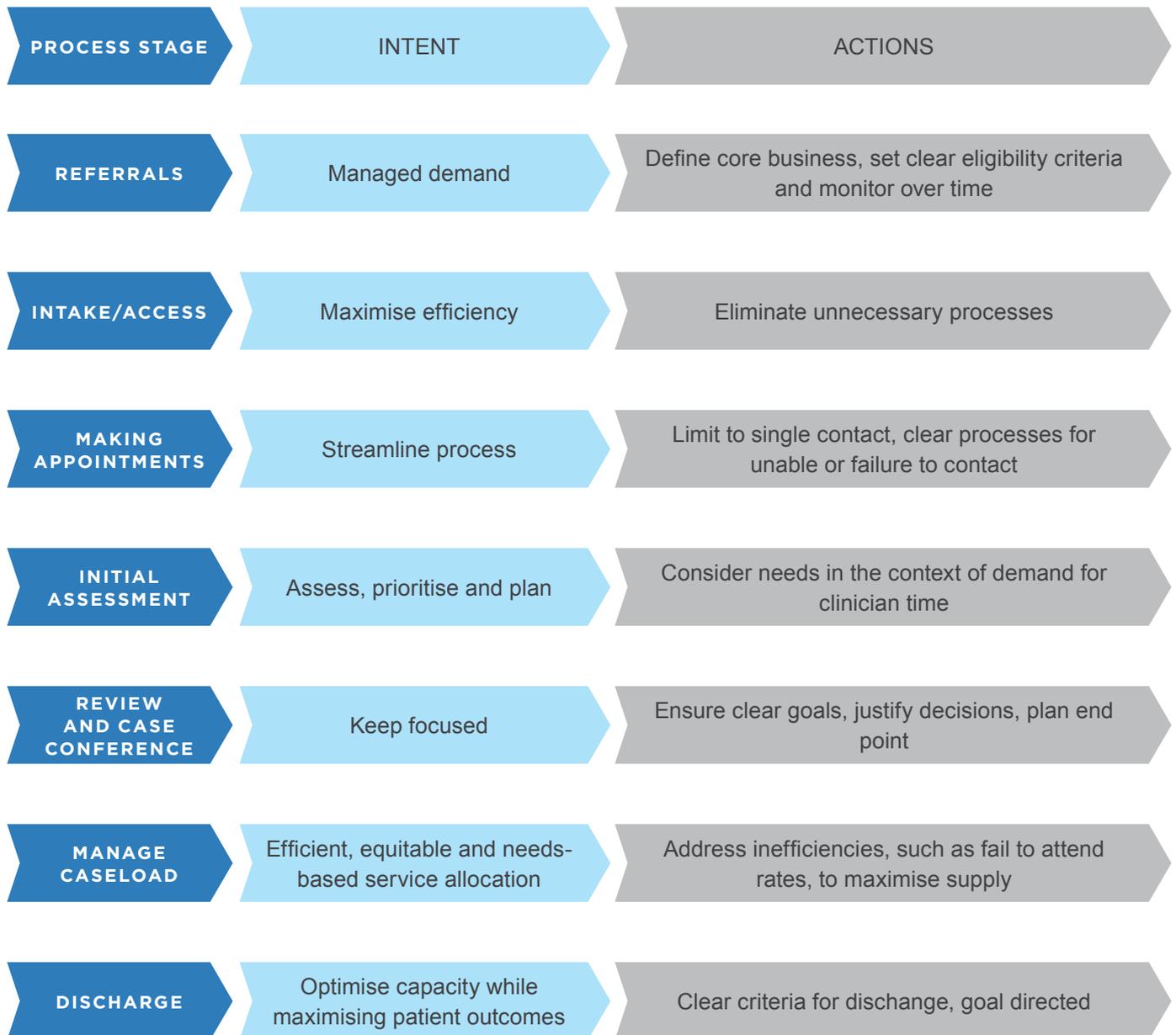
Experience of STAT trials has demonstrated the importance of change champions who are ready to look at all the steps of their work and ask, ‘Does it have to be done this way?’

“ I PROBABLY DISCHARGE A LOT MORE THAN I USED TO. I TEND TO WORK A BIT MORE EFFICIENTLY IN THAT WAY. WHERE I USED TO HOLD THEM AND FOLLOW UP AND MAKE SURE THAT EVERYTHING WAS ALRIGHT, I WAS PROBABLY BEING A BIT OVER CARING. ”



Part 2: Implementing STAT

Considerations for managing workflow



“ IT IS DEFINITELY A LOT MORE EFFICIENT PROCESSING REFERRALS; A LOT LESS TIME CONSUMING. ALL THOSE PROCESSES HAVE BEEN MORE STREAMLINED. ”



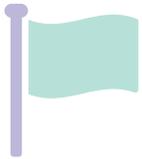
Part 2: Implementing STAT

Tips for success



Established principles of change management are followed. STAT may require a significant change to clinical practice, as well as to its administration. Staff members who feel

included in decision-making are empowered to work creatively to meet the challenges; and staff members who have a good understanding of the reason for change manage the transition well.



Leadership is strong. Managers, team leaders and influential staff members need to guide the team towards a shared goal to reduce the time clients wait to receive the service.

Project leaders need to provide information, support team members and be open to suggestions.



Change is aligned with an organisation's strategic focus.

Equitable access, timely service, client safety, reduction in clinical risk, client-centred care and financial responsibility are examples of how STAT can contribute to the advancement of a healthcare service. Bringing the organisational plan to the forefront assists in ensuring support from executive, managers, team members and patients in creating a drive to change.



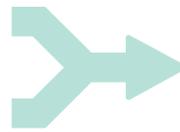
Administrative staff are on board and supported. The role of administrative staff and, in particular, the person who makes the bookings

and manages the clinicians' diaries, is very important. The staff members who are closest to the wait lists will undergo a significant change to how they work. Ultimately, their work will be easier, more straightforward and transparent, but the transition period will place extra demands on them. They may require extra resources.



Eligibility criteria are clear. 'Triage' before the first appointment may be a thing of the past. When the referral arrives at the service, the process

may change from 'triage' to 'sorting'. Identification of urgency is no longer part of the upfront process. A determination of eligibility is all that is required in terms of assessment or identification of need. Some services have found that a natural consequence of STAT is that they have tightened eligibility, which is one response to demand that is too high for the service to meet.



Processes are streamlined. STAT requires processes to be lean in order for clients to be seen for an assessment as quickly as possible.

When planning to implement STAT, a review of intake processes is essential.

Many processes in healthcare settings have developed over time in response to changing requirements. There are sometimes layers of tasks that were introduced in the past that are no longer required. Take a fresh look at the processes, what they add and whether they are still necessary. Ask: 'Why do it we do it this way?', 'Is there another way?'



The team is ready for a transition period. During the transition from the current model to STAT, there will be an overlap of the 'old way' and the 'new way'. Clinicians will have

clients from their pre-STAT caseload for a period of time while taking on clients as per the STAT diary. For the transition period, some staff may feel stressed at managing both. Preparation and knowledge that this is temporary will assist in getting through the transition period.



Part 2: Implementing STAT



The team plans for managing a caseload that is different. Each service will need to change its focus and way of working, some more significantly than others. The priority is now those clients who have not yet been seen, rather than clients who are already engaged with the service. For a single discipline, high volume service that is used to having a fast paced throughput, this may not result in a difficult change.

For clinicians who are used to accepting clients from the wait list only when they have completed treatment, and who are accustomed to controlling their own diaries, it may require a significant shift in clinical practice and thinking.

Planning and initiating strategies to manage this will be required for an easier transition.

“ YOU HAVE YOUR STAT FIRST APPOINTMENT AND THEN YOU DECIDE... THE TEAM MAKES DECISIONS ABOUT WHAT SERVICE DELIVERY LOOKS LIKE. WHAT'S OUR PLAN HERE? HOW ARE WE GOING TO MAKE THIS WORK? ”

Conclusion

Lengthy waiting times for care in an outpatient or community setting are a familiar challenge to many clinicians, administrators and managers. Those involved in managing health services are aware of what the evidence shows, that delays in access to care for these services have been associated with poorer patient outcomes, anxiety, and service inefficiencies. The STAT model provides an alternative option to the management of wait lists, addressing patient flow by reducing complexity in booking systems, combining triage with initial management, and actively managing the relationship between supply and demand. This handbook is the result of research which has shown that the STAT model works where principles are followed and team members and leaders are ready and willing to change.

The research team is proud to provide this handbook as a resource to those who wish to take the plunge and try the STAT model.

The project has been made possible by a partnership between La Trobe University, the Victorian Department of Health and Human Services and a grant from the National Health and Medical Research Council.

Acknowledgement goes to Dr Katherine Harding who has followed her PhD topic through to a large trial involving over 3000 participants, with support and expertise from Professor Nicholas Taylor. The research group and research associates are also gratefully acknowledged.



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