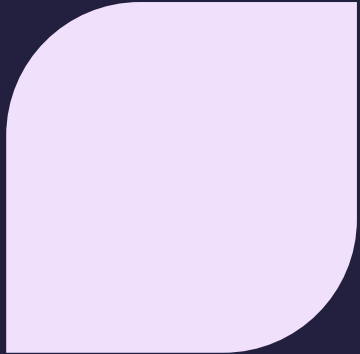


# Patient Initiated Appointments Health Economic Analysis



November 2022

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# Acknowledgements

We would like to thank those who contributed to the contents of this report. PIFU implementation teams and clinicians across both Liverpool University Hospitals NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust provided invaluable insight into the use of PIFU within their Trust and services.



**Liverpool University Hospitals**  
NHS Foundation Trust



**Guy's and St Thomas'**  
NHS Foundation Trust

# Executive Summary

There is growing evidence that patient-initiated appointments have substantial benefits for patients and Trusts which can take the form of Patient Initiated New Appointment (PINA) and/or Patient Initiated Follow-Up (PIFU).

Patients' benefits include reduced delays in treatment and more appropriate timing of appointments. For the NHS, patient-initiated pathways bring both financial and non-financial benefits. These include avoiding unnecessary appointments, better use of consultants' time and reducing the waste of resources.

From a PIFU perspective, the findings within this report indicate that all specialties using digital PIFU are adding high proportions of patients to PIFU pathways. There is also evidence to suggest a remaining opportunity for further uptake. From the patient's perspective, there is no indication that demographic factors, such as age, limit engagement with digital PIFU pathways.

One of the greatest identified benefits of PIFU is that patients added to this pathway have fewer follow-up appointments than non-PIFU patients. This can result in significant system benefits, allowing redistribution of costs to ensure patients receive the care they need. On top of this, it was found that where patients are given greater autonomy for the timing of their follow-up appointment, the time between the first and follow-up appointment differs materially. This appears to suggest benefits to patients in receiving the right care at the right time.

The size of the potential cost savings by specialty was found to be

dependent on the nature of the patient's condition. Financial savings were found to be the highest in specialties with large patient numbers as there is greater potential for saved outpatient attendances. However, lower-volume pathways for patients with rarer conditions still reported significant patient and staff benefits. The benefits to patients and staff, seen across all specialties, including avoided unnecessary appointments, a more responsive service, lessened workload etc. were praised even with financial benefits being less significant.

What has also emerged throughout interviews across multiple specialties and Trusts is that it is easier to roll-out to some services; the most successful services are those with long-term conditions, intermittent flare-ups, isolated and uncomplicated pathologies or high-prevalence diseases.

Based on the case studies analysed, there are several factors that contribute to a successful digital-PIFU implementation. Which can be summarised as:

- A digital PIFU programme leader
- Clinical engagement and alignment early on
- A clear, manageable project plan and structure
- Co-producing Standard Operating Procedures (SOPs) with the clinical team
- Technical training
- Administrative support
- Protected capacity for PIFU patients
- Effective communication with patients
- Conduct periodic reviews/audits of PIFU pathways

# Executive Summary

Challenges remain, mainly around the lack of clinical engagement, shortage of staff resources to implement the change, speed, and clinicians' concerns and fears around patients' clinical safety. These barriers can be addressed by:

- Building awareness to support patient-initiated pathway adoption
- Having the right/enough resources to drive the change
- Redesigning the existing process and making sure that everyone is on-board
- Using complementary tools

Using these findings for a national roll-out, there is potential for PIFU to generate savings within these smaller higher complexity services in combination with the high-volume low complexity specialties. It is estimated that around **1.4 million outpatient follow-up appointments** could be saved nationally for an annual financial saving of at least **£167.2 million**. These numbers could be even higher if rates of high performing Trusts are achieved by all high-volume services across all Trusts along with all other specialties.

From a waiting list perspective, PINA can help reduce the number of unnecessary first appointments at a Trust for "mild" patients in low complexity services, in a similar way to PIFU. Between 3-15% of patients on the waiting list do not need an outpatient appointment by the time they get contacted. By removing eligible patients who do not actually need a first OP appointment and are appropriate for PINA, the waiting list size could be reduced by around **210,098** patients every year.

# Context

The headline figure for August 2022, was that 7 million people were on an NHS waiting list<sup>1</sup>. However, this does not include anyone waiting for a routine follow-up.

The waiting time for routine follow-up appointments is not reported but contains significant clinical risks, such as missing the return of a cancerous tumour, and potentially high cost, through additional funding for waiting list initiatives. Handling high volumes of follow-up appointments also places a substantial strain on an already-stretched workforce.

**Patient Initiated Follow-Up (PIFU)** has been identified as a solution that potentially offers a win-win outcome of maintaining patients' safety whilst reducing the number of avoidable appointments. As part of the Elective Recovery Strategy NHSE has set a target of moving 5% of outpatient attendances to PIFU pathways.

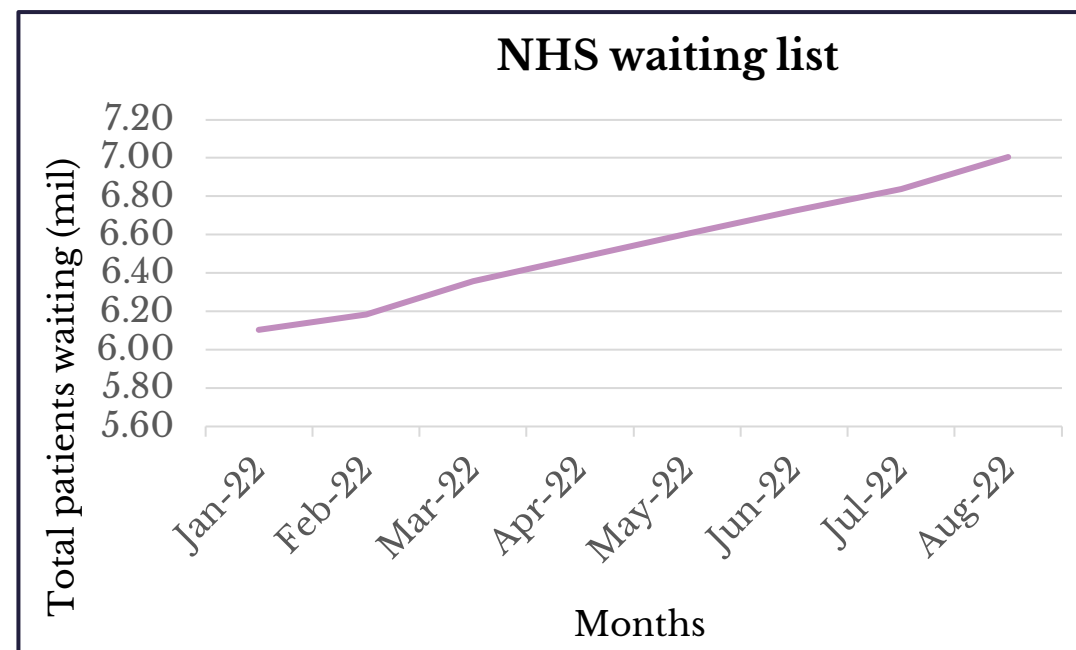
Although there is significant literature on the potential benefits of the PIFU pathway, there remains a lack of evidence on the real-world benefits of PIFU. This lack of evidence, along with the ever-present challenges of changing existing pathways, means that many Trusts will miss the modest 5% PIFU target for March 2023.

PIFU is just one form of patient-initiated pathway which can benefit patients and reduce pressure on the NHS. **Patient Initiated New Appointment (PINA)** pathways can similarly help manage the increasing length of NHS waiting lists.

DrDoctor helps manage ~20% of NHS outpatient booking activity, including PIFU and PINA services across multiple Trusts. This has enabled

DrDoctor to collect a substantial amount of data that, used in combination with data from Trusts, can help develop evidence on the health economic value of patient-initiated appointments to inform increased usage and improvement of the service.

This report sets out the findings from data analysis, literature review and operational and clinical engagement into the potential real-world benefits, and best practice implementation of patient-initiated appointments.



1. Source: <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2022-23/>



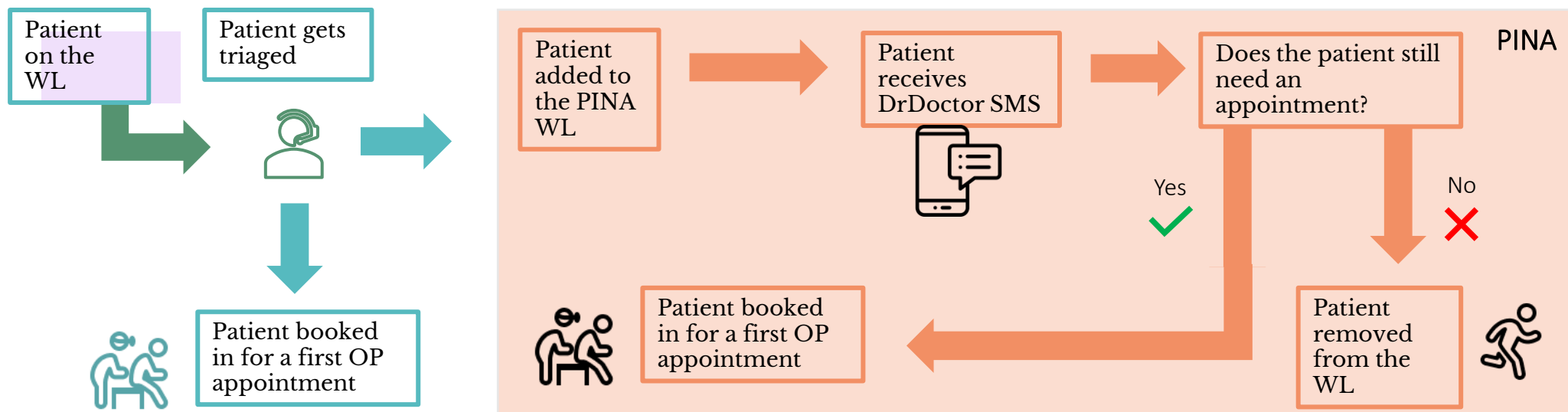
1

Patient Initiated  
Appointments  
Benefits Analysis

# Digital PINA Pathway

Below is a **simplified user journey** to map and explain digital PINA benefits.

**Patient Initiated New Appointment:** before they get booked into a new appointment patients on the waiting list get triaged. For some low complexity specialties, if the patient has mild or medium severity symptoms, after the triage they can be added to the PINA waiting list. DrDoctor sends the patient a message with the login details and info on how to request a new appointment. The patient has then up to a month to request a new appointment. At the end of this time period, if the patient hasn't requested a new appointment, they get discharged.

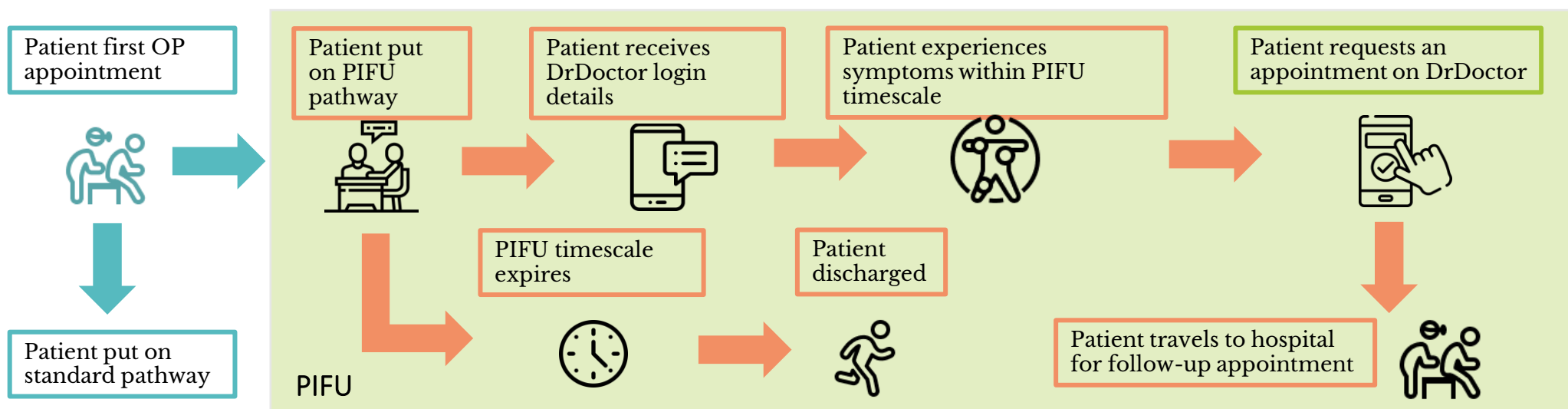




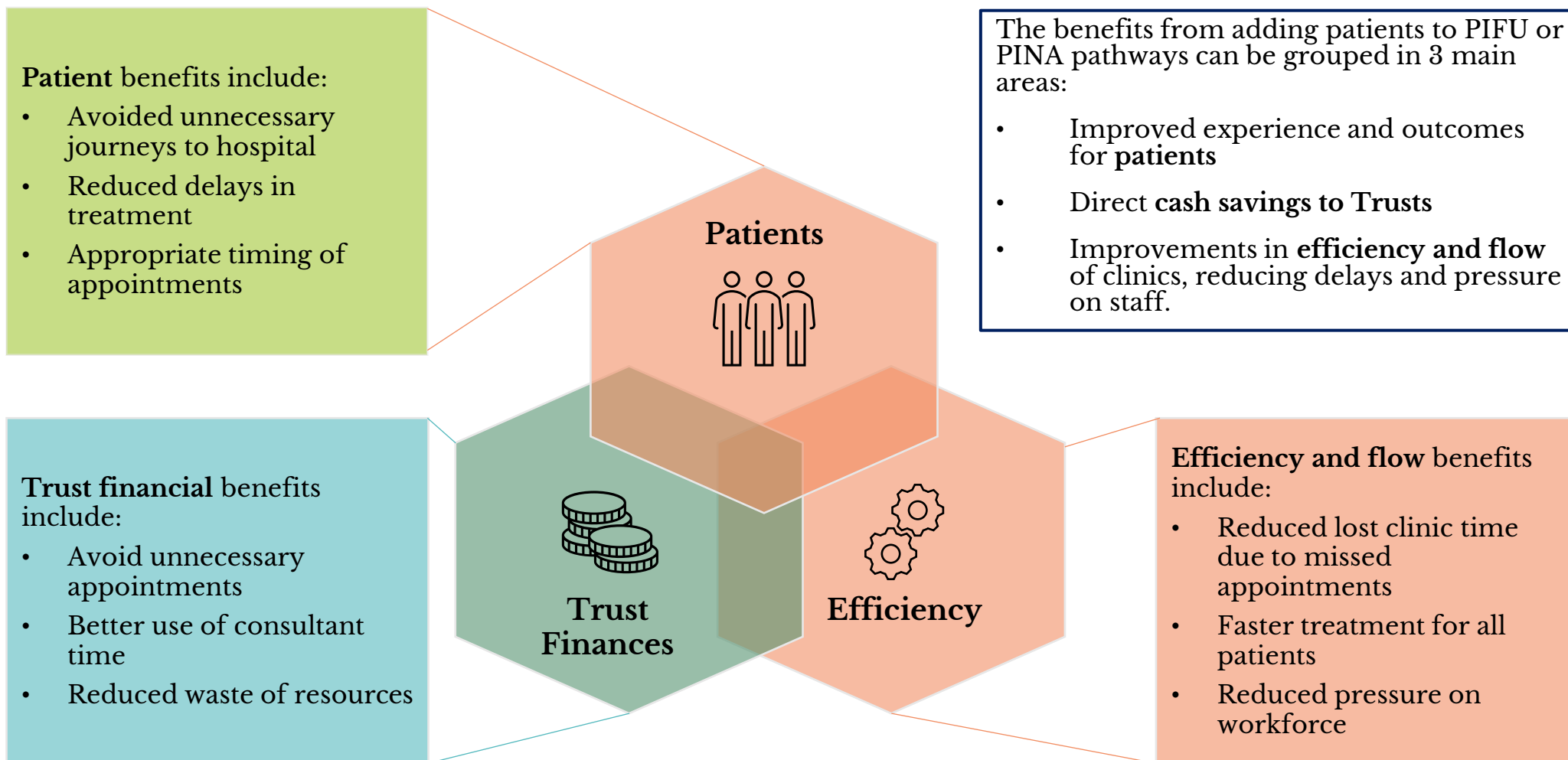
# Digital PIFU Pathway

Below is a **simplified user journey** to map and explain digital PIFU benefits.

**Patient Initiated Follow Up:** a patient has an OP appointment where the clinician decides that they are suited for PIFU and adds them to DrDoctor eligibility list. The patient receives the login details and info on how to request an appointment. If the patient experiences symptoms within the PIFU timescale, they can request an appointment through DrDoctor. The Trust will then review the request and book a follow-up OP appointment for the patient.



# Patient Initiated Appointment Benefit Overview



# Impact Pathway

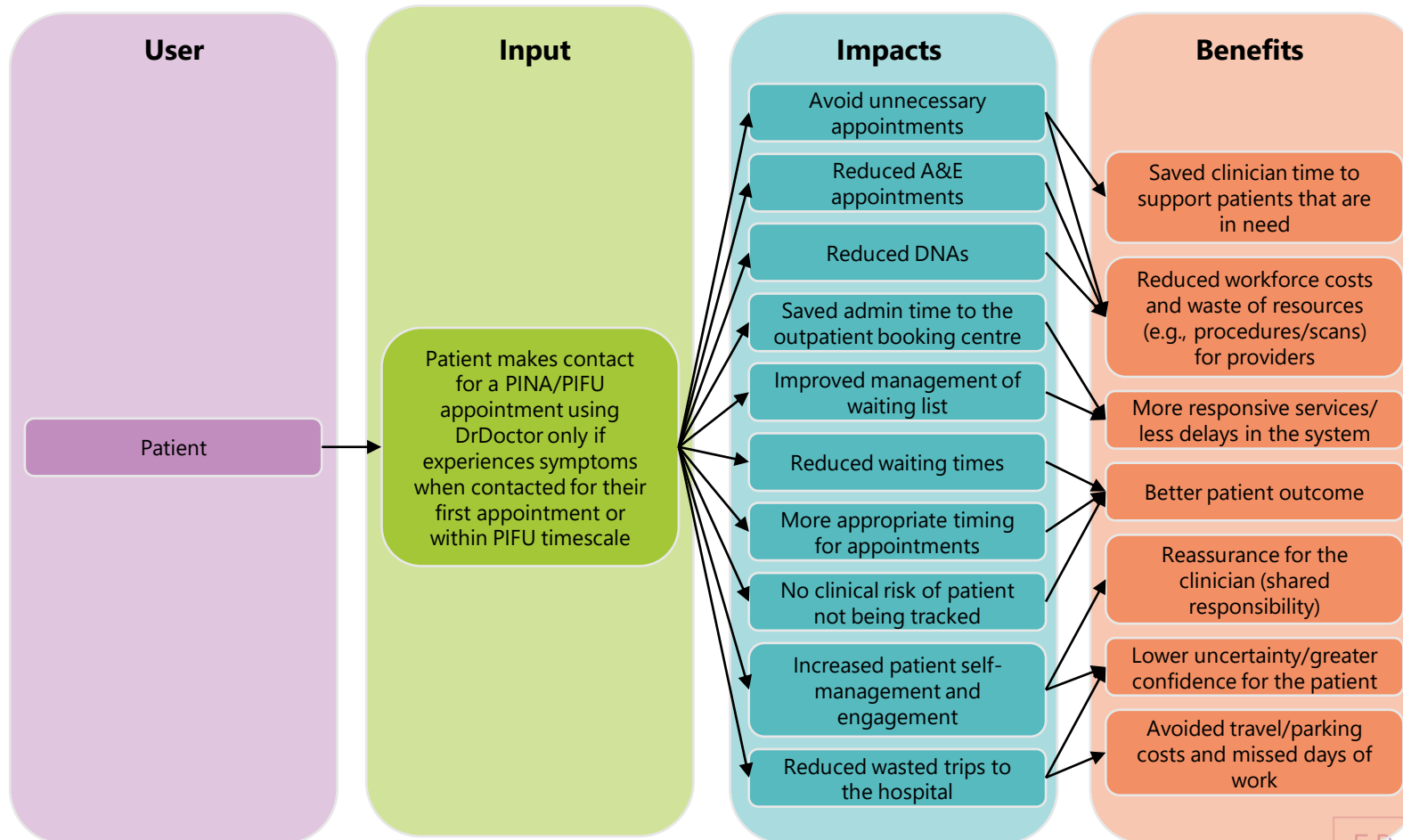
Figure 1: Impact of patient-initiated appointment

Figure 1 sets out an impact pathway from the patient on a digital PINA/PIFU pathway through to the potential benefits on the patient, clinicians and the NHS.

This pathway consists of three stages:

- **Input:** the patient using DrDoctor to request a new or follow-up outpatient appointment if experiences symptoms when contacted from the Trust for their first appointment or within PIFU timescale
- **Impacts:** how it affects the patient, the clinician and the provider
- **Benefit:** what is the positive outcome on either the patient, the clinician or the NHS as a result

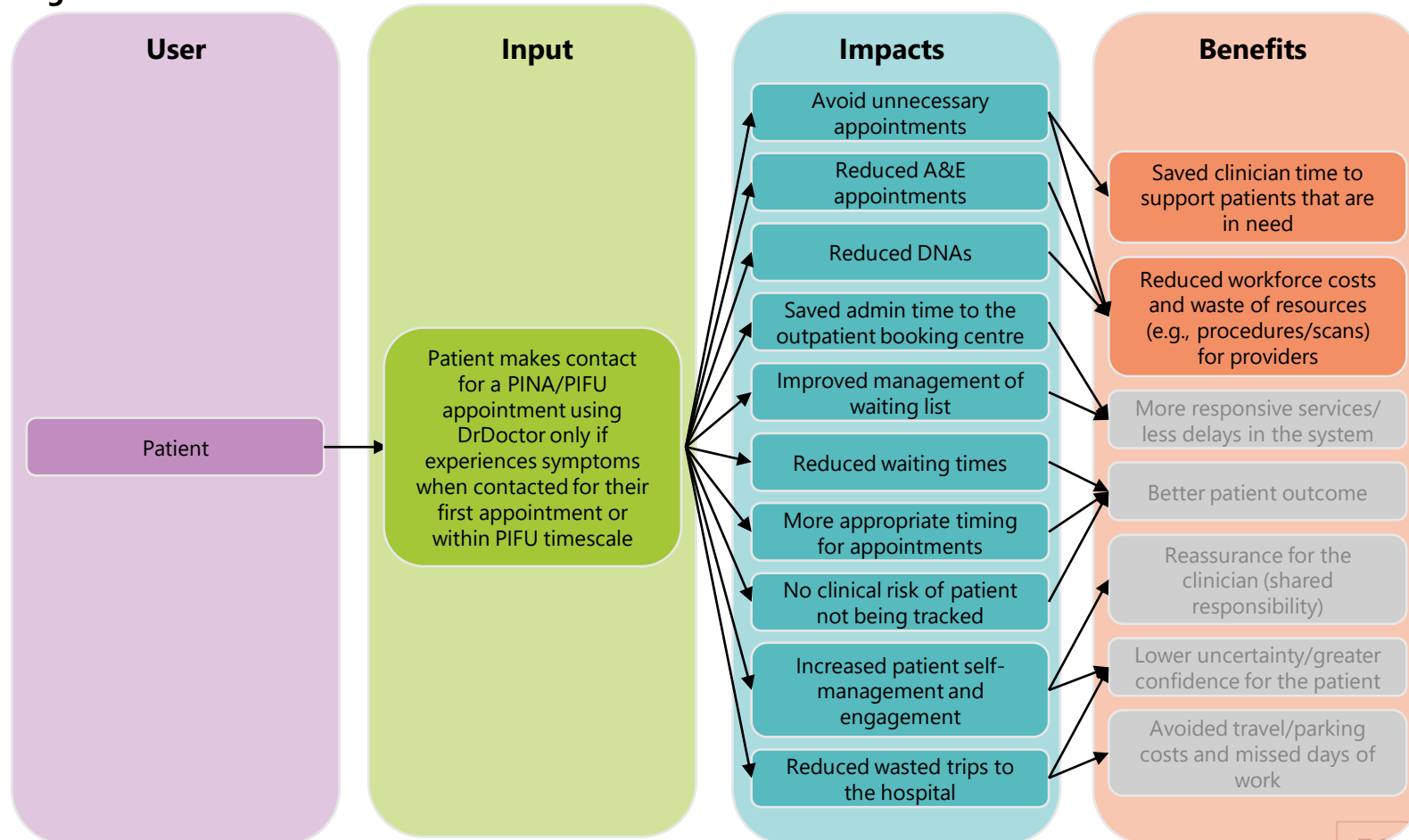
This impact pathway presents a long-list of benefits which are not distinct but overlap substantially.



# Trust Financial Benefits

Several of the outlined benefits have a positive impact on Trusts' finances (Figure 2), such as avoiding unnecessary appointments, reducing the number of DNAs and the waste of resources.

Figure 2: Trust financial benefits



# Patient Benefits

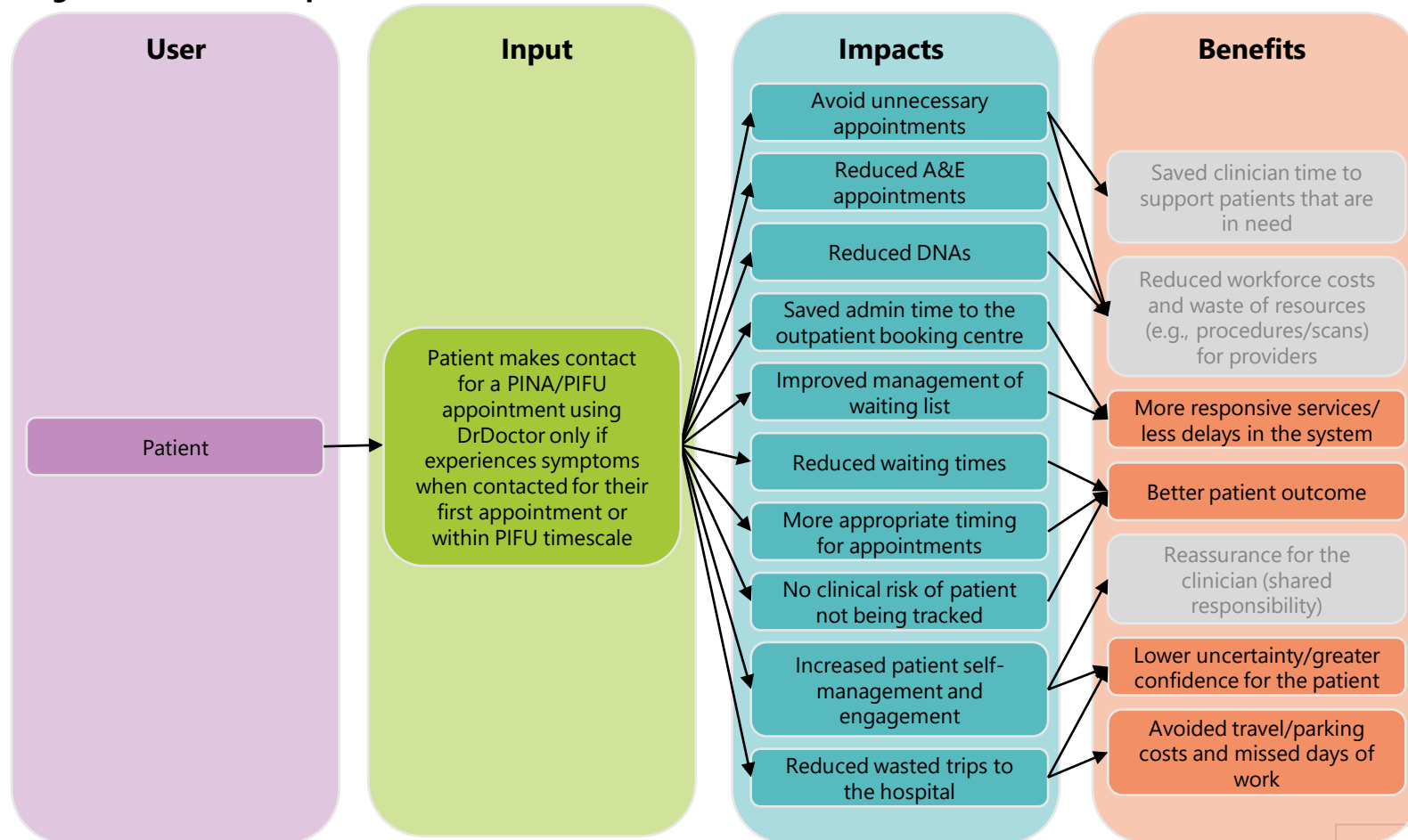
Figure 3 outlines the benefits to patients of using patient-initiated appointments.

Most of these benefits come through better outcomes. These outcomes can be achieved through reduced delays in treatment and more appropriate timing of appointments.

It also reduces uncertainty for patients by giving them the confidence and tools to take control of their own care.

Finally, patient-initiated appointment system makes it easier for them access to the service and improves patients' experience.

Figure 3: Benefits to patients

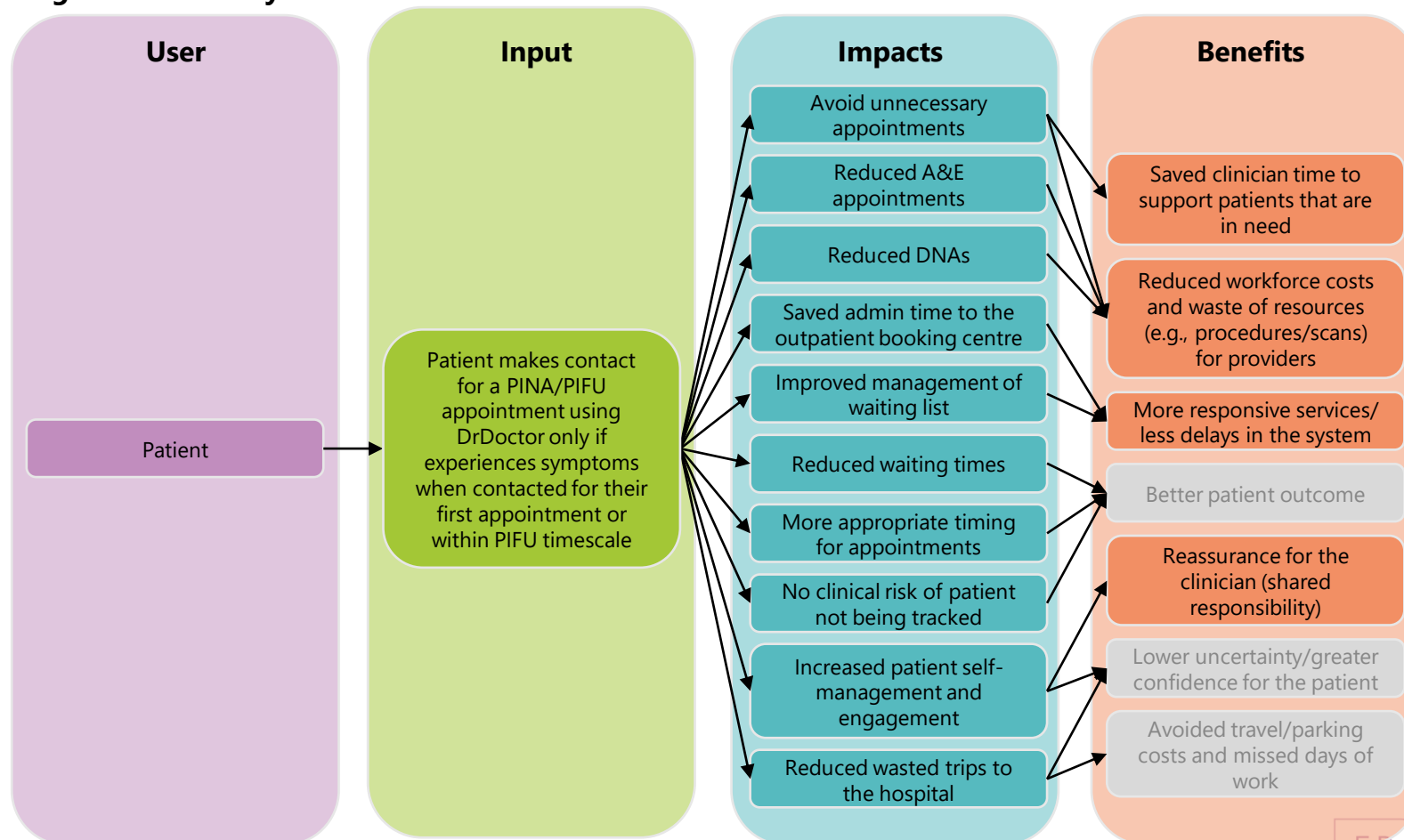


# Efficient and Flow Benefits

Finally, patient-initiated appointments can bring flow and efficiency benefits to the system (Figure 4), these include:

- Get capacity back to book-in patients that are most in need without compromising patient outcomes
- Use the service for low-risk patients rather than medium or high-risk in order to reduce the need for GP re-referrals
- Reduce pressure on the workforce improving staff experience by allowing clinicians to share the clinical risk with patients
- Better use of consultant time by reducing lost clinic time due to missed appointments
- Faster treatment for all patients.

Figure 4: Efficiency and flow benefits



# External Benefits of PIFU/PINA Adoption

## Time savings

The average return journey to a hospital for a patient living in England is 24 minutes<sup>1</sup>, outpatient consultations take around 20 minutes<sup>2</sup> and the waiting time for an appointment tends to be 50 minutes<sup>3</sup>. Patient-initiated appointments help patients save an average of 94 minutes per appointment.

## Economic benefits

Adult patients attending a face-to-face appointment often need to take time off work to travel, wait for and attend their appointment. Having only necessary OP appointments ultimately leads to work hours saved and labour productivity gains.

## Environmental benefits

It is estimated that the NHS accounts for 5% of all road traffic in England, causing increased pollution and road traffic accidents. Reduced patient travel benefits the environment by reducing the NHS' carbon footprint. Lower emissions may also have positive externalities over time, such as improved population health.

## Travel cost savings

Reducing the number of OP appointments has a positive impact on travel and car parking expenses from the patient's perspective.



1. Assumption and methodology developed by the NHS England and NHS Improvement Outpatient Transformation Programme team. Taken from the Journey Time Statistics publications, 2017, Department for Transport
2. Source: The Potential Economic Impact of Virtual Outpatient Appointments in the West Midlands: A scoping study, 2012, The Strategy Unit
3. Source: The Potential Economic Impact of Virtual Outpatient Appointments in the West Midlands, 2018, The Strategy Unit



# 2

## Case studies

Impact on Trusts' operations and finances



# Case Studies

This section sets out case studies of Trusts who have already implemented DrDoctor's digital PIFU and PINA. These case studies demonstrate the benefits of patient-initiated appointments on the Trusts' operations and finances as well as give background to the implementation.

For this report, we have looked at Liverpool University Hospital Foundation Trust and Guy's and St Thomas' Foundation Trust.

**1. Guy's and St Thomas' Foundation Trust (GSTT) – High volume low complexity service**

- Physiotherapy Service (Musculoskeletal and Hand Therapy)

**2. Liverpool University Hospital Foundation Trust – Higher complexity services**

- Rheumatology Services (including a general Rheumatology pathway and a specific Behçet's disease pathway)
- Inflammatory Bowel Disease (IBD) Service

**3. Liverpool University Hospital Foundation Trust – PINA to reduce waiting list size**

- Physiotherapy Service



# Case Study 1: Guy's and St Thomas' NHS Foundation Trust

High volume low complexity (HVLC) service

# Case study 1: Guy's and St Thomas'

## HVLC

Guy's and St Thomas' Physiotherapy directorate identified a need to reduce unnecessary and inappropriate appointments to moderate pressures on the service and improve patient experience. The pilot was run within the directorate and DrDoctor digitalised PIFU was implemented across Musculoskeletal (MSK) and Hand Therapy services.

### **Physiotherapy**

A process where patients could initiate follow-up appointments themselves was not new to the MSK service at GSTT. Prior to implementing DrDoctor PIFU, they implemented an SOS pathway which gave patients an open appointment for a certain amount of time.

This had its challenges as patients had relatively little access or signposting as to how to get back into the service once put on the SOS pathway. Patients also struggled to know what required a follow-up appointment and what was normal within the healing process. Therefore, unnecessary and inappropriate appointments persisted.

The reason for choosing to implement the DrDoctor digital PIFU system was 3-fold:

- GSTT wanted to digitalise the process to allow staff to **keep track of patients** that were coming back.
- GSTT wanted the product to be able to automatically populate a **PIFU patient database**. Prior to the implementation of DrDoctor PIFU, patients were calling in requiring an appointment. A record of this was manually entered into a database which was cumbersome

for admin staff.

- As DrDoctor systems were already embedded within the patient pathway, patients have become used to it and therefore, using DrDoctor again would lead to **minimal changes seen by the patient**.

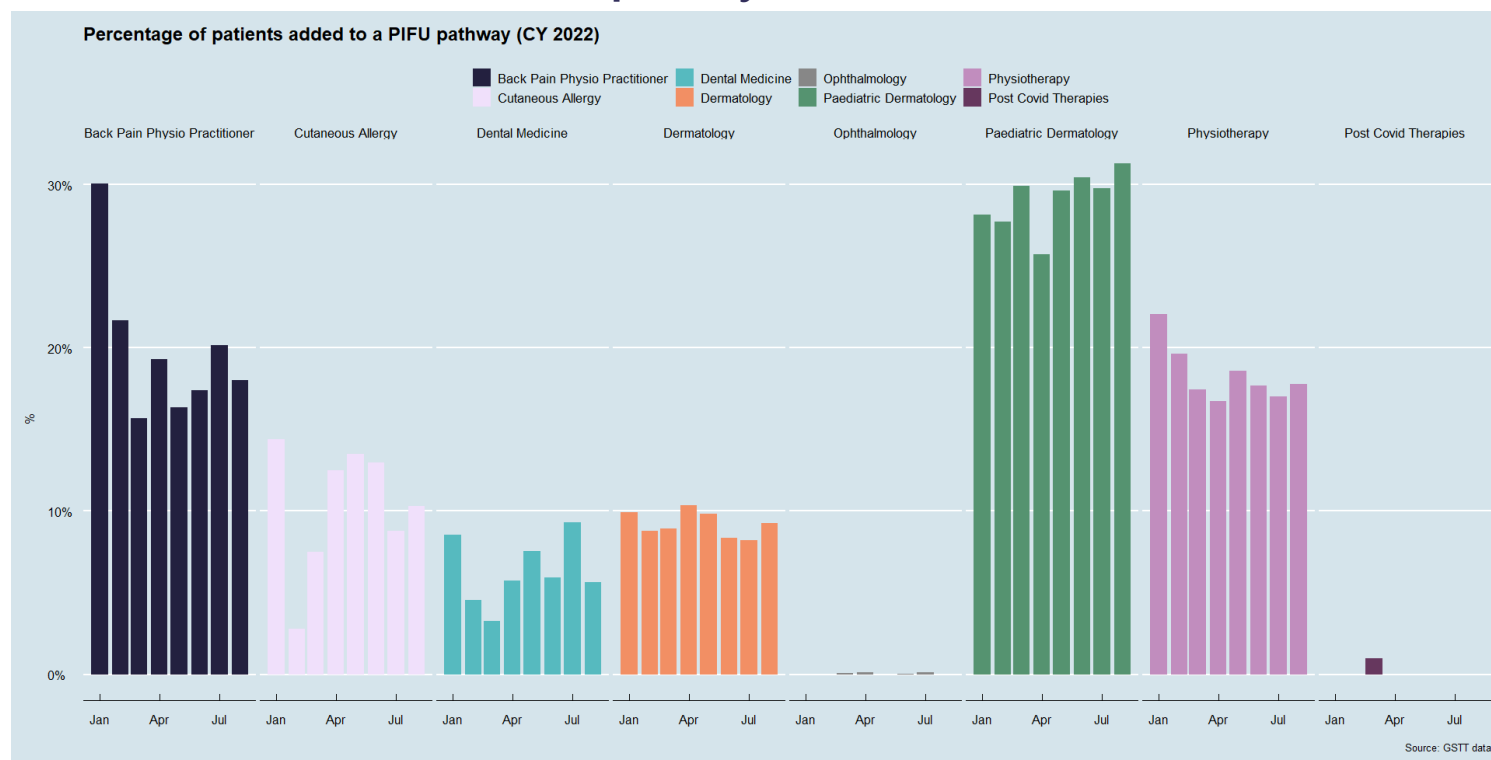
Now patients are discharged onto the DrDoctor digital PIFU pathway in the following way:

1. Patients receive an onboarding message which has a list of conditions and reasons why they should come back.
2. Included within this message is information on what to do if they don't have one of the conditions that are appropriate for a PIFU appointment.
3. The patient can write a free text about their symptoms if they don't meet the criteria.
4. This is reviewed by the team and can then be booked in, if clinically appropriate. This often is more helpful in providing reassurance to the patient rather than signaling a need for an appointment.
5. If the patient is found to be potentially eligible for an appointment, they first have a telephone consultation. This determines the need for an appointment.

# Case study 1: Guy's and St Thomas'

How many patients are on a PIFU pathway?

**Chart A. Patients Added to a PIFU pathway**



**Since the beginning of 2022 Guy's and St Thomas has used PIFU pathways consistently across a range of different specialties.**

An increasing number of patients get added to PIFU, leading to around 2,000 patients a month on a PIFU pathway across the Trust. This is in line with the 5% national target.

Chart A shows the percentage of patients that have been added to PIFU, from January 2022 to August 2022, broken down by the high volume low complexity (HVLC) specialties for which PIFU is offered.

The specialties with the highest percentage of patients added to PIFU eligibility list are Paediatric Dermatology (~30%), Back Pain Physio Practitioner and Physiotherapy (~20%).

For these specialties, most patients not added to PIFU either start treatment in clinic, get referred to another consultant or get discharged to GP. Suggesting that in these high volume PIFU specialties patients not on a PIFU pathway are those that require constant treatment or those that have been referred inappropriately.

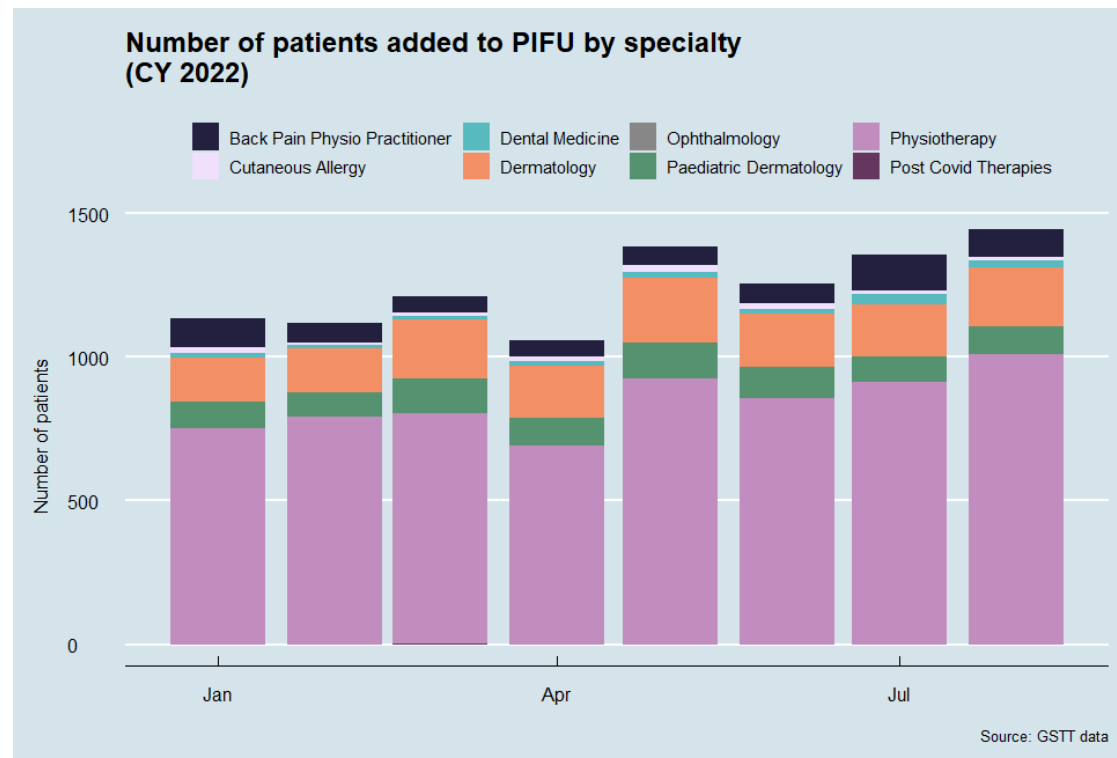
# Case study 1: Guy's and St Thomas'

## Has PIFU activity grown over time?

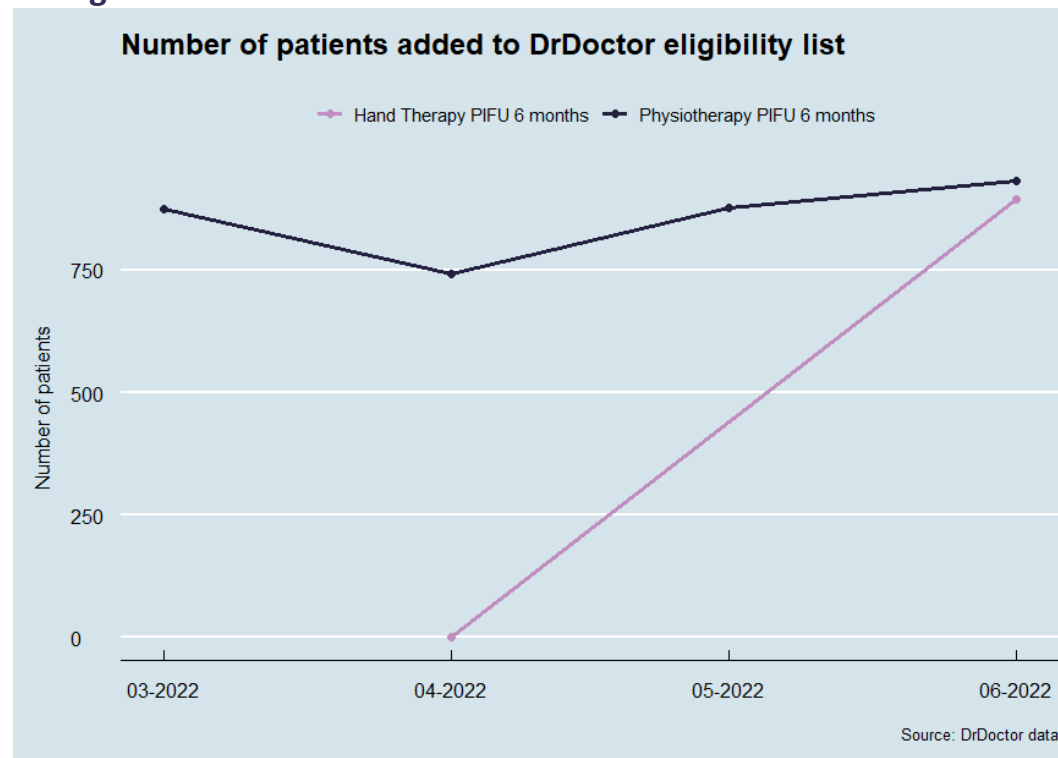
**Musculoskeletal Physiotherapy and Hand Therapy patients, falling within the Physiotherapy specialty, represent the largest share of PIFU patients at the Trust c1,000 patients added to PIFU per month.** Physiotherapy as a specialty is well-suited to PIFU because it has a high volume of patients with needs that are often of lower complexity. It is currently also the only service at the Trust that uses DrDoctor digital PIFU (as shown in chart C).

This is in line with the growth of the DrDoctor Physiotherapy eligibility list, meaning that the majority of patients get added to DrDoctor digital-PIFU.

### B. Patients Added to PIFU



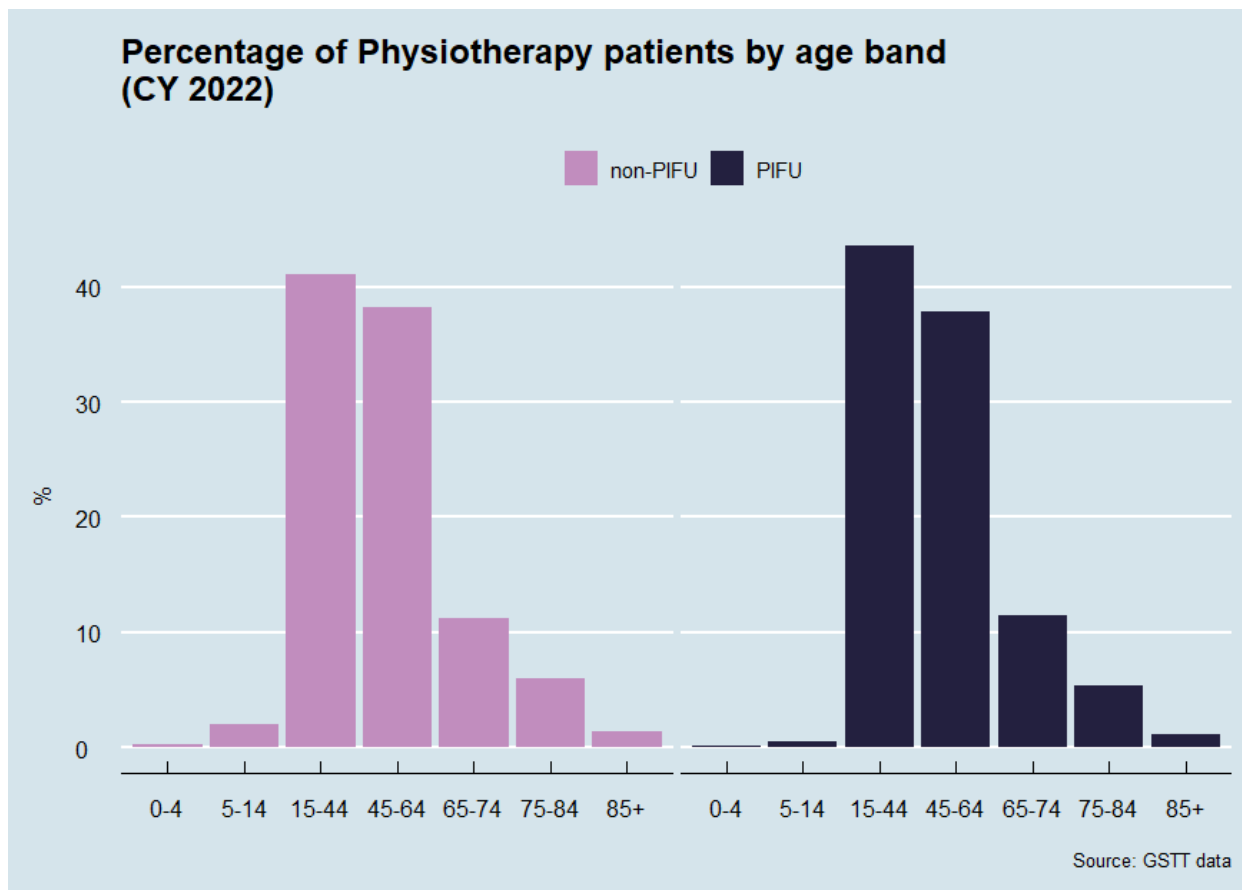
### C. Eligible PIFU Patients



# Case study 1: Guy's and St Thomas'

What is the demographic of PIFU patients?

## D. Age Distribution



**The demographic of patients added to PIFU does not vary between non-PIFU and PIFU patients.**

For example, we have that 6% of PIFU patients are 75+ compared to 7% for non-PIFU patients.

This suggests that factors related to age, such as tech literacy, do not influence the ability of the patient to access the digital PIFU service offered for Physiotherapy.

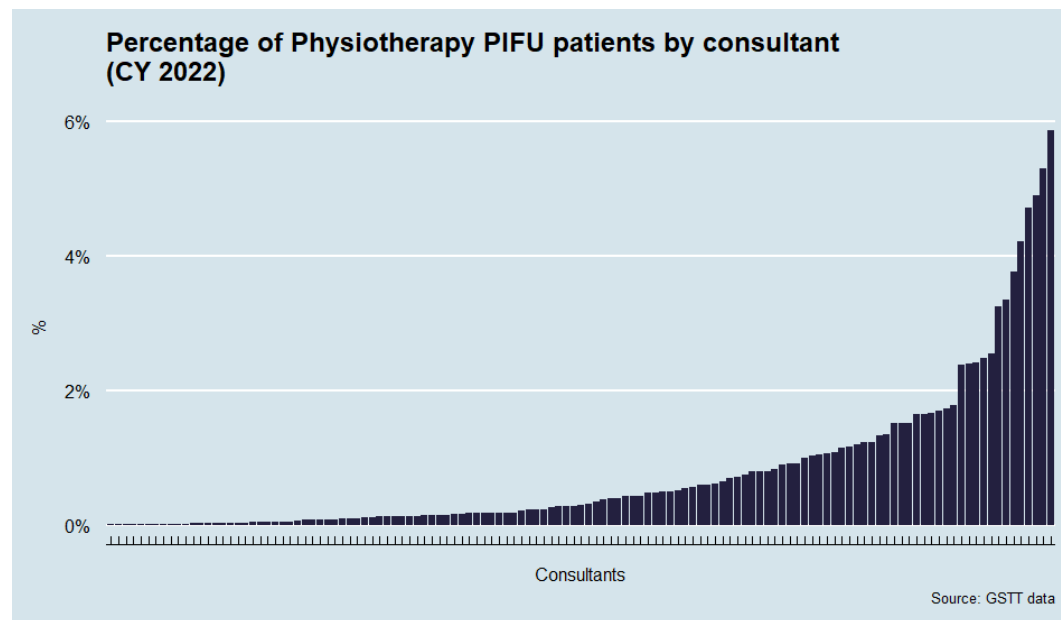
# Case study 1: Guy's and St Thomas'

## Are consultants using PIFU consistently?

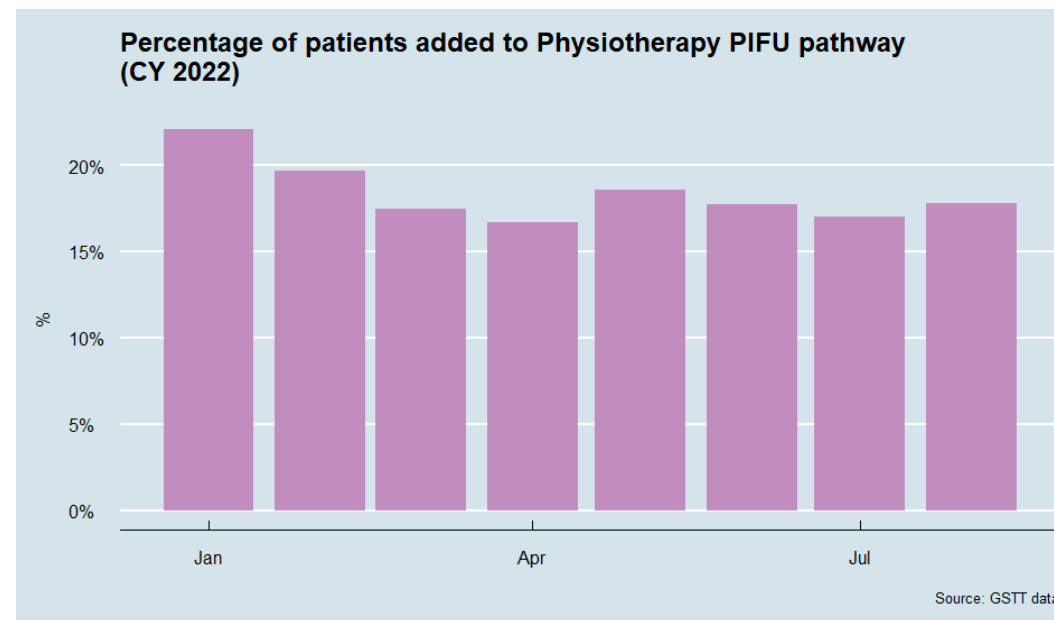
**In total 127 different consultants have added patients to PIFU in 2022.** As shown in chart E, no single consultant is responsible for more than 6% of all patients added to PIFU. This demonstrates the breadth of adoption across clinicians and that activity is not just driven by a small number of the most engaged consultants.

Since digital PIFU implementation in January 2022, the percentage of patients that have been added to the PIFU eligibility list by month (chart F), has remained relatively constant over time, ranging between 15-20% for an average of 18.4%.

**E. Breakdown of PIFU added patients by consultant**



**F. Percentage of PIFU patients by month**



# Case study 1: Guy's and St Thomas'

## Do PIFU patients have less follow-up appointments?

Looking at patients who had a first appointment since the beginning of January 2022 and comparing those who were moved into a PIFU pathway to those that were not, **more than 70% PIFU patients have not come back for an appointment, compared to 44% of non-PIFU patients.**

The table shows the number of times patients on the standard (non-PIFU) and PIFU pathway had subsequent appointments by the end of August 2022 (for PIFU patients this would include all follow-up appointments, not just those booked through the PIFU system).

Roughly 25% of patients have come back for less than 5 appointments during the PIFU eligibility period while this rate is around 50% for non-PIFU patients. This results in an average of 0.71 follow-up appointments per PIFU patients, vs an average of 2.3<sup>1</sup> for non-PIFU patients.

Number of follow-up appointments	% of PIFU patients	% non-PIFU patients
0	73.2%	44.0%
1	14.6%	22.1%
2-5	9.5%	27.6%
6-9	1.7%	4.4%
10 or more	0.9%	1.8%

1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>

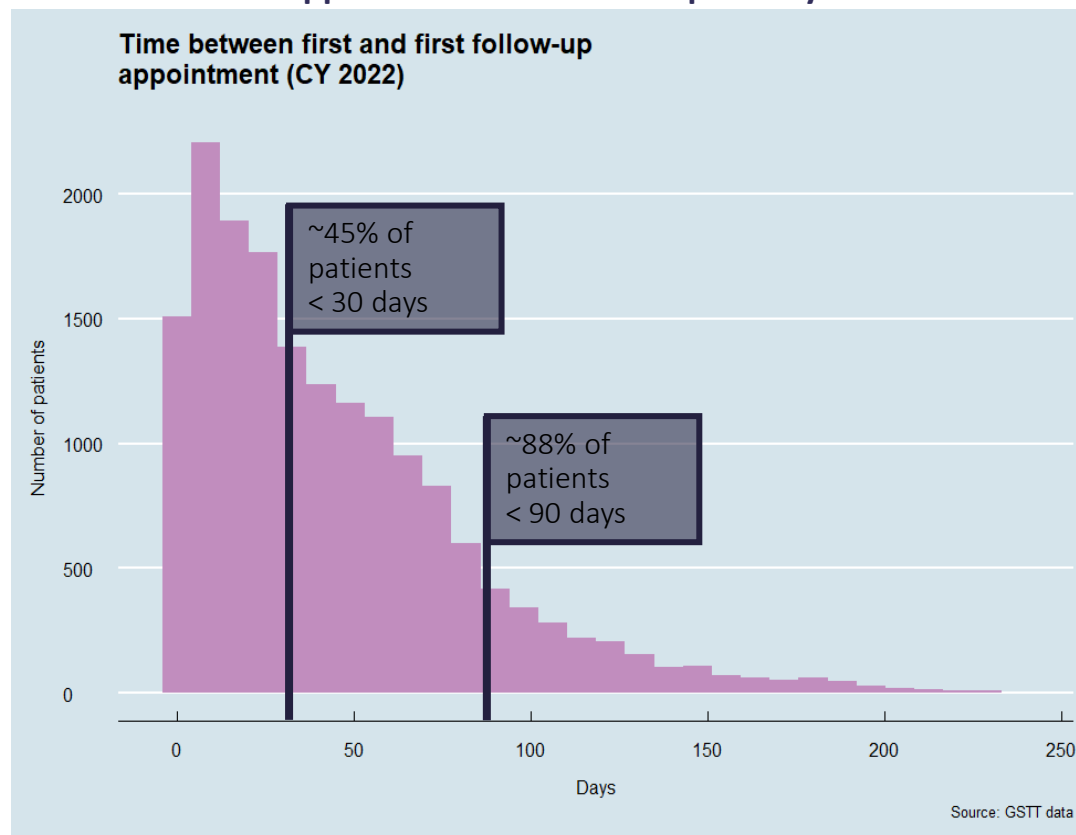


# Case study 1: Guy's and St Thomas' - HVLC

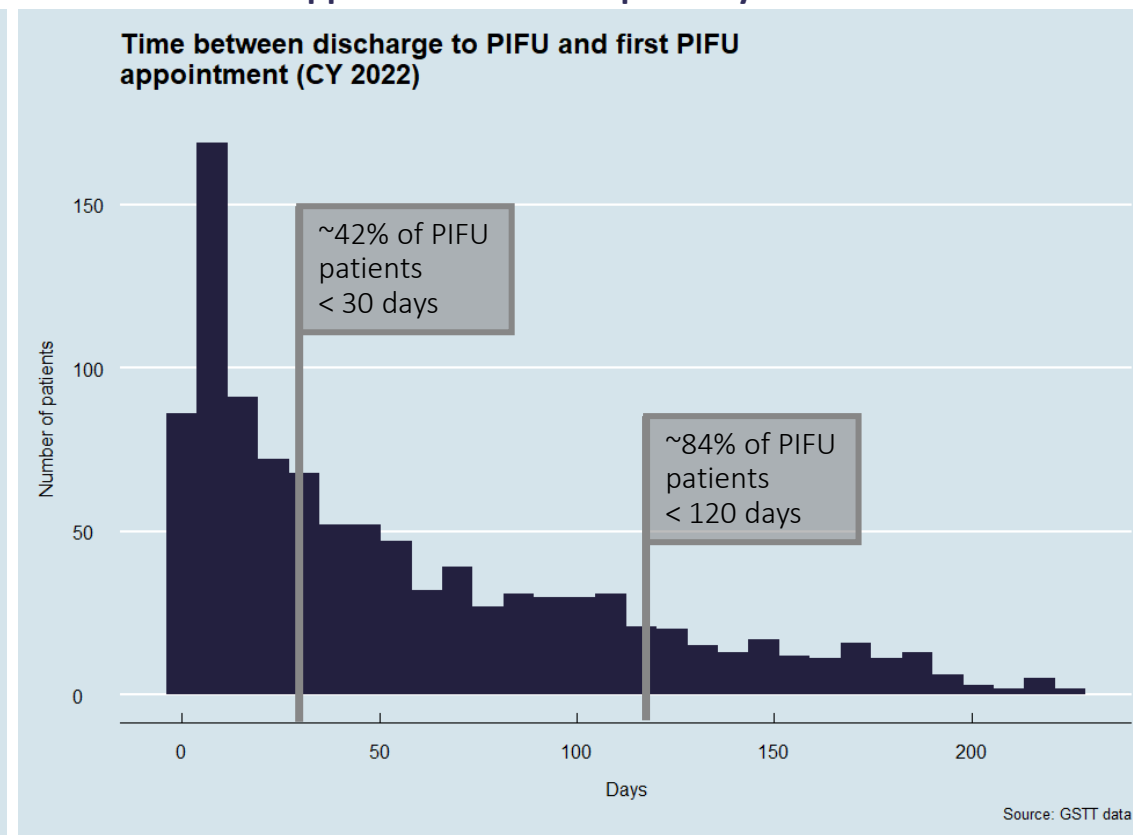
How does the time of appointment change between PIFU and non-PIFU patients?

**The PIFU system allows for patient- and need-driven timing of appointments.** As shown, the percentage of patients that come back for a follow-up appointment within the first 30 days is consistent across PIFU and non-PIFU patients, while the remaining 60% is spread more evenly across time for PIFU patients. This variation in timing suggests that patients see value in being able to determine when they have a follow-up appointment. As shown in Chart H, there is a spike of patients who elect to have a follow-up relatively shortly after their first appointment and also a long tail of patients who do not require a follow-up until 6 months or more after their initial consultation.

**G. Time between appointments – non-PIFU pathways**



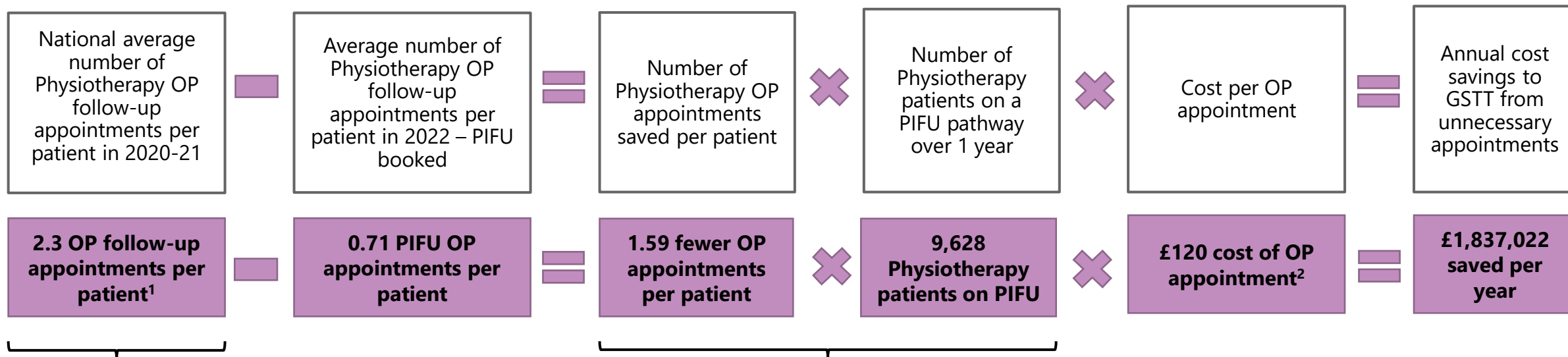
**H. Time between appointments – PIFU pathways**



# Case study 1: Guy's and St Thomas'

## Physiotherapy reduction in follow-up appointments

**GSTT implemented digital PIFU in its Physiotherapy service at the beginning of 2022** (the estimates below are hence calculated using data collected from the first half of 2022). What has emerged in these first months since its implementation is that digital PIFU is a powerful instrument for managing high volumes. It also has the potential to deliver significant system benefits, allowing redistribution of costs to ensure patients receive the care they need, when the need it most.



This estimate for GSTT for the first half of 2022 is **2.8**. It must be noted that, since the estimate has been calculated using data from a time period in which PIFU was already adopted (first half of 2022) the patients' case mix could be skewing the number.

Average of **15,308** appointments saved.



1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>  
 2. Source: <https://www.england.nhs.uk/2018/10/nhs-to-trial-tech-to-cut-missed-appointments-and-save-up-to-20-million/>



Case study 2:  
Liverpool University  
Hospital NHS  
Foundation Trust  
Higher complexity services

# Case study 2: Liverpool University Hospital

## Higher complexity PIFU

Liverpool initially signed up to DrDoctor PIFU on a pilot scheme. Due to national pressures and the fact the Trust had just merged 3 sites, they decided to begin with 3 pilot services with 1 on each site.

The pilot service at each site was decided by both enthusiasm of the service to implement digital PIFU and national numbers which indicate which services nationally have the highest number of patients on PIFU pathways. Looking back, it is believed that enthusiasm of the service to participate in the pilot was a better metric to use to determine where to start. This is because enthusiastic participants engage more with the implementation and drive its success day-to-day. The use of national numbers proved only successful if the service was also enthusiastic. The digital process was also set up in 6 weeks (this was done out of necessity to reach the target in time).

### *Rheumatology*

At Liverpool, the Rheumatology services have set up a general Rheumatology and a Beçhet's disease (a rare and poorly understood condition that results in inflammation of the blood vessels and tissues) PIFU pathway.

These services have implemented PIFU as a result of the NHSE directorate that has identified PIFU implementation as a key priority and has set a 5% target. They also were tackling up to 9 months of waiting time for new patients to be seen and PIFU was an opportunity to reduce this.

Both pathways have changed in a similar way. Prior to PIFU implementation patients were discharged with an open appointment which required them

to ring a secretary and wait for a slot to be available. Since PIFU implementation, if an appointment is requested, the request is triaged by telephone. This triage can determine urgency. These PIFU pathways have been very successful, with patient numbers expected to increase further and the average waiting time decreasing from 9 months to 8 weeks.

### *Inflammatory Bowel Disease (IBD)*

At Liverpool, the IBD pathways can be split into a stable pathway, for patients in remission and not on any high-risk medications, and the biologics branch. One of the reasons why the Trust decided to implement the system in this service is because the service was not big enough to match demand, so digital PIFU was a way to address the increase in demand.

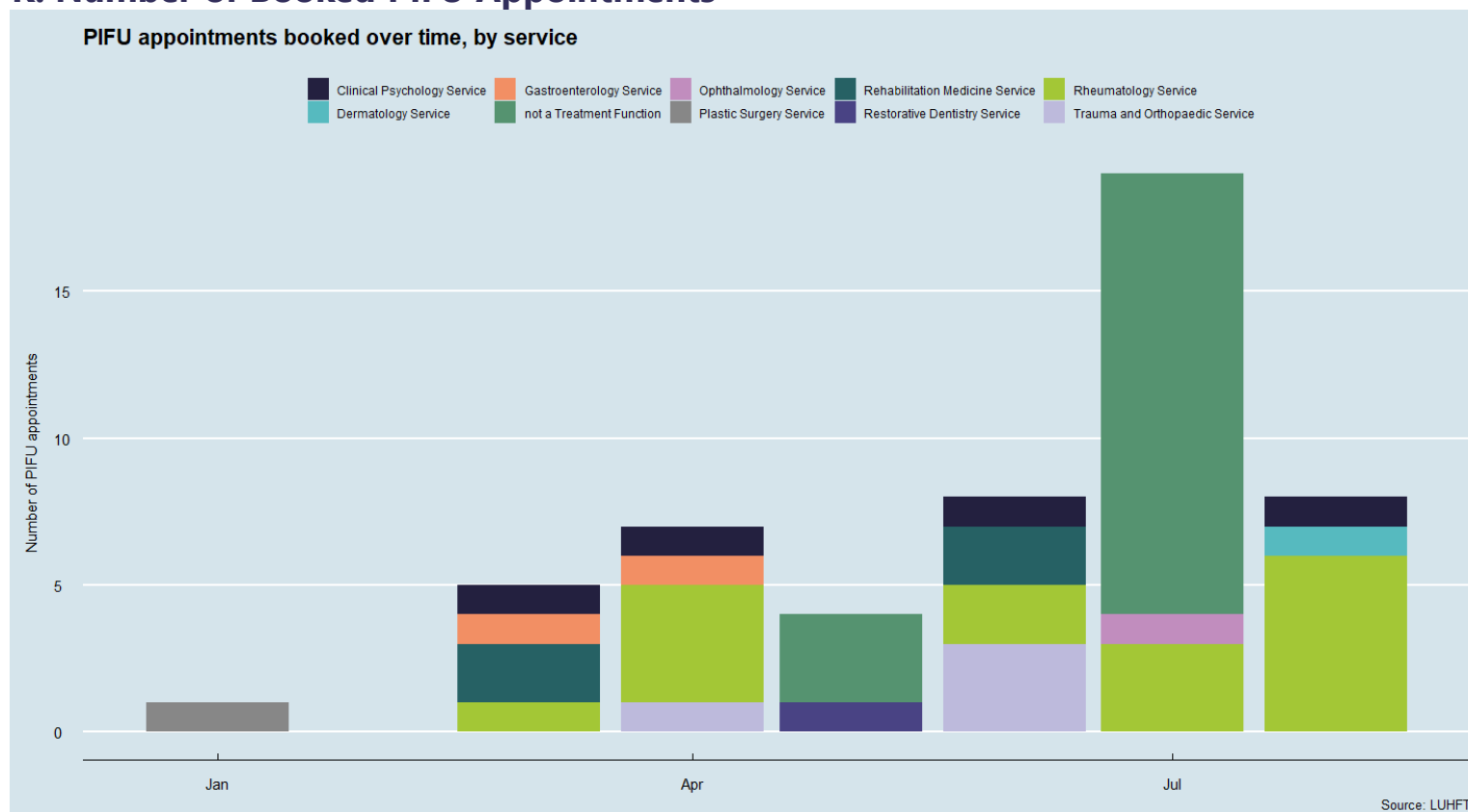
The stable pathway is currently in the process of implementation as has not yet been able to see a high volume of patients. The biologics branch, however, has been running for some time. The pathway is more advanced than a simple PIFU pathway. The patient is given a risk matrix to determine the urgency and need for an appointment. If found to be appropriate for an appointment, the patient can be booked in for an appointment in a nurse-led clinic.

The biologics pathway sees around 10 patients a week now. Not all of these patients are currently on a PIFU pathway but, if deemed eligible, are able to be added to it. It is expected that a similar number of patients will be seen on the stable pathway each week once fully operational.

# Case study 2: Liverpool University Hospital

How has PIFU activity grown over time?

## K. Number of Booked PIFU Appointments



**PIFU-related activity is currently relatively low with 52 PIFU appointments booked since January 2022.**

Chart K shows the volume of eligible PIFU patients who have booked appointments through PIFU since the beginning of 2022. This is based on outpatient data provided by Liverpool University Hospitals.

The volume of patients attending PIFU appointments has been steady per month. In August 2022, 8 appointments were booked through PIFU.

# Case study 2: Liverpool University Hospital

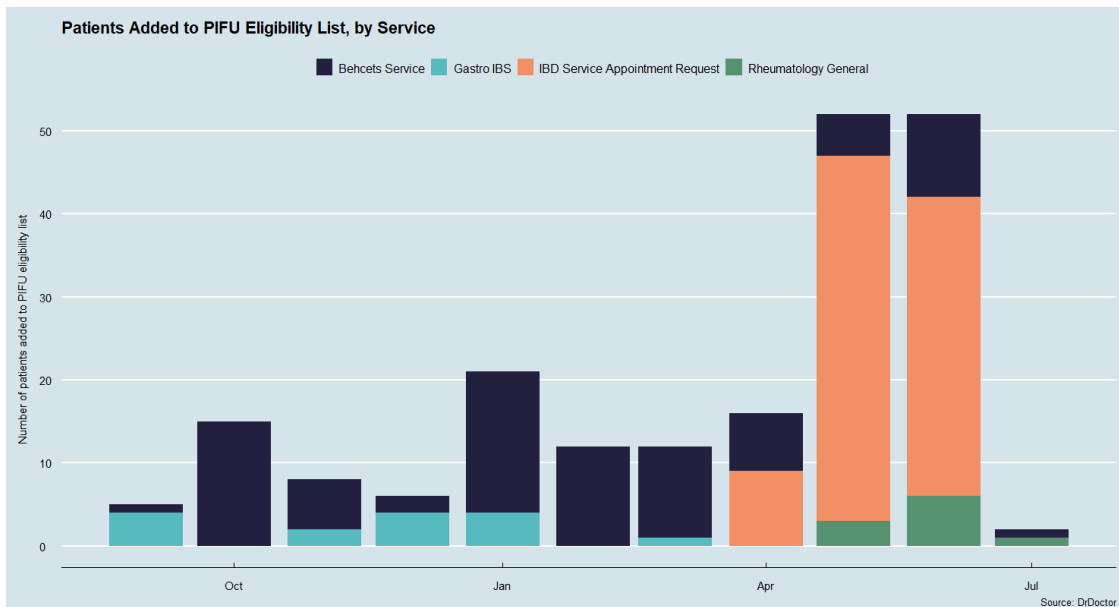
## Trends in PIFU – Rheumatology and IBD

DrDoctor has also started implementing digital PIFU in other specialties at Liverpool. These include Inflammatory Bowel Disease (IBD) and Rheumatology. Data indicates that currently there has been a relatively low number of patients and appointments. Qualitative findings suggest this is due to both the nature of the service and the early stage of the roll-out.

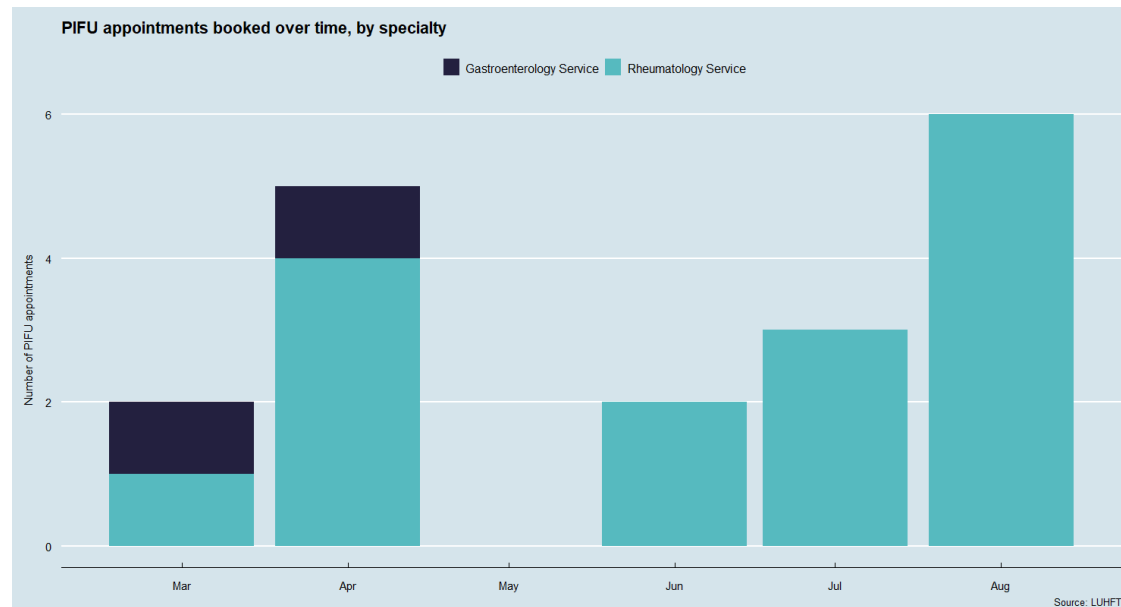
Since its introduction in January 2022, 88 patients within the Rheumatology service have been discharged onto PIFU pathways, with 89% of these being on a specific Behçet's pathway. Together, this represents 0.7% of all Rheumatology patients. The proportion of Behçet's patients on this PIFU pathway will be more significant given the rarity of the disease. The data below indicates that there has been low but stable activity by patients on a Rheumatology pathway. This includes both patients being added to the eligibility list and patients booking a PIFU appointment.

IBD is very early in the roll-out, with very few patients currently eligible (103 or 0.2% of Gastroenterology patients). This is evident in the data with only 2 appointments booked into the service so far.

### L. Patients Eligible for a PIFU Appointment



### M. Eligible PIFU Patients Booked for an Appointment



# Case study 2: Liverpool University Hospital

## Early stage of implementation

Both Rheumatology and IBD Services at Liverpool are at very early stages of their implementation of DrDoctor digital PIFU. This partially explains the low numbers of patients both discharged onto a PIFU pathway and booking an appointment through the service.

However, there is potential for PIFU to generate savings to the Trust through a reduction in follow-up appointments within these services. Data from NHS Digital<sup>1</sup> indicates that currently a Rheumatology and IBD patient has respectively 5.9 and 2.2 follow-up appointments. By discharging a higher proportion of patients onto a PIFU pathway, there is the opportunity to reduce the number of follow-up appointments per patient and generate savings for the Trust.

The average Rheumatology OP attendance costs £98<sup>2</sup> and the average IBD OP attendance costs £87<sup>2</sup>, according to the NHS national tariffs. Although not possible to show for Liverpool specifically, NHS modelling indicates that 1.08<sup>3</sup> Rheumatology OP appointments could be saved per patient. This equates to £106 per patient. If we assume 30% PIFU discharge rate for the 2021 Rheumatology patients' numbers (11,109 patients), PIFU alone could save Liverpool £353,266 annually.

## Nature of the diseases

A second explanation for the low numbers reported at Liverpool is the nature of the diseases covered by these services.

For example, one of the pathways within the Rheumatology Service is specifically for Behçet's disease. This rare and poorly understood condition which results in inflammation of the blood vessels and tissues, currently forms 89% of all Rheumatology PIFU activity at Liverpool. The rarity of the disease means that high volumes of patients would never be possible, regardless of the increased roll-out of PIFU or improving the offer.


This is, however, an interesting case study. Unlike services, such as Physiotherapy, where PIFU has historically been considered more promising and offering the greatest opportunity, the Behçet's disease pathway shows that PIFU can also be successful in rarer, smaller subspecialties. The success of this implementation shows that PIFU has the potential to be successful across many different specialties.

The benefits of moving these more specialist specialties to PIFU pathways may not generate significant financial returns to the Trust level but could deliver the significant patient benefits described throughout this report.

1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>

2. Source: [2022/23 national tariff workbook \(Annex A\) - updated for pay award](#)

3. Source: <https://www.england.nhs.uk/wp-content/uploads/2022/05/B0801-implementing-patient-initiated-follow-up-guidance-1.pdf>



Case study 3:  
Liverpool University  
Hospital NHS  
Foundation Trust  
PINA to reduce waiting list size



# Case study 3: Liverpool University Hospital

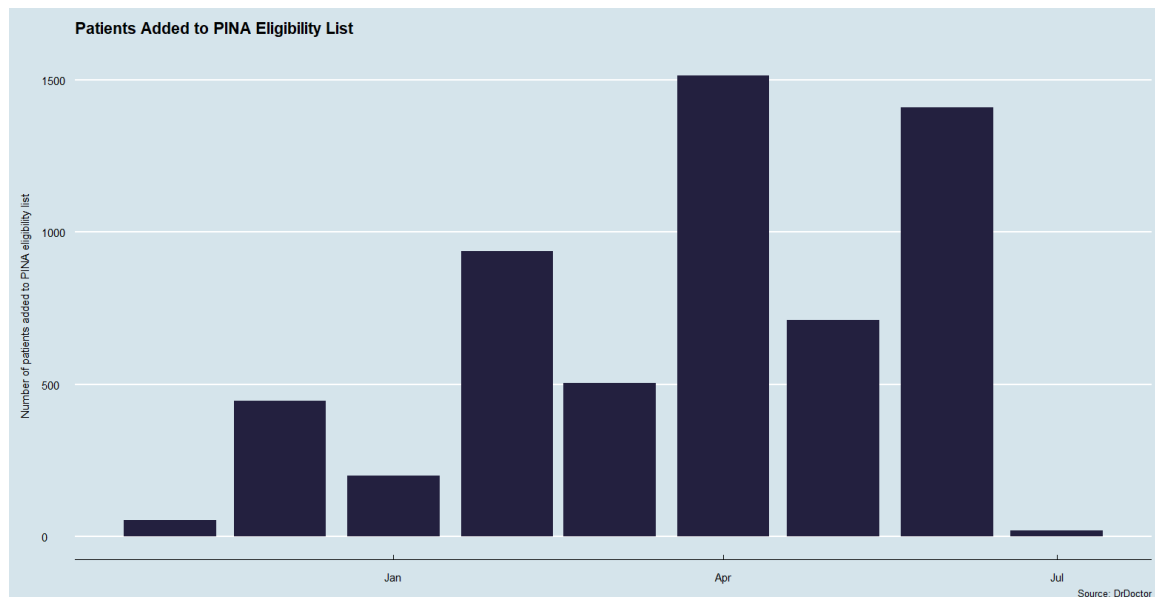
## How many patients are on a PINA pathway?

The Physiotherapy Service at Liverpool uses the DrDoctor digital patient-initiated appointment product in a different way. They use the service for Patient Initiated New Appointments (PINA). This is where patients who have been referred to the service are given information on how to book their first appointment. The aim of this is to reduce unnecessary outpatient first appointments to secondary care.

The process entails the patients waiting for an appointment being triaged to determine urgency and needs. Patients deemed to be “mild” are made eligible for PINA. The eligible patients are sent log-in details for a platform to book their first appointment. The patients then have a month to request an appointment if they feel it is still required. It is important to note that this process is not currently appropriate for all services, for example, those where there is high risk of significant morbidity or mortality if there is any delay to treatment (e.g., Oncology).

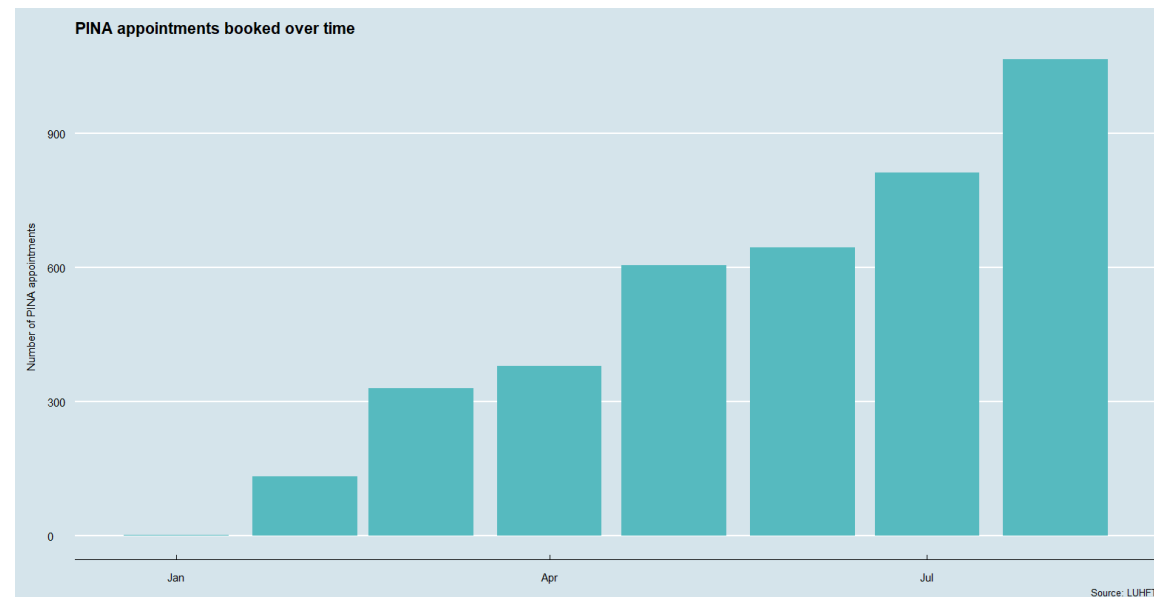
Much like the Physiotherapy service at Guy’s and St Thomas’, the early stages of this pilot have seen high volume of patients being added to a PINA pathway and subsequently booking appointments. For example, 1,409 patients were added to the PINA eligibility list in June 2022 and 645 patients booked a PINA first appointment in the same month, growing to 1,067 in August 2022.

### L. Patients Eligible for a PINA Appointment



\*Physio Broadgreen Hospital Shoulder/ Elbow, Physio Royal, Musculoskeletal Physiotherapy Integrated Waiting List, Musculoskeletal Physiotherapy, Physio Broadgreen Hospital Spinal and Physio Garston

### M. Eligible PINA Patients Booked for an Appointment



\*Occupational Therapy Service and Physiotherapy Service



# 3





## Learnings and Recommendations

From Trusts' pilots to rapid roll-out

# Learnings and recommendations – from Trusts’ pilots to rapid roll-out

This section sets out how Trusts can implement digital PIFU in their services to generate the same benefits as currently high-performing Trusts.

In this review:

-  **Part 1:** analyses the most successful specialties/services and patients’ cohorts in the digital PIFU implementation at a new Trust.
-  **Part 2:** provides insights from the pilot services at Liverpool and GSTT that improved the conditions for the successful delivery of the roll-out of digital PIFU.
-  **Part 3:** examines the factors that were perceived as barriers to a successful digital PIFU implementation across services at Liverpool and GSTT.
-  **Part 4:** explores how Liverpool and GSTT adapted as complexities arose over the digital PIFU implementation and what learnings can be taken from this.

# Part 1 - Most successful specialties/services and patients' cohorts

When implementing PIFU at a new Trust it is important to choose the appropriate specialty, service, time and patients to roll out to. Starting with a defined service, in fact, makes it easier to mark and list patients on the patient administration system (PAS). The most successful specialties/services and patients' cohorts are found to be:

- Cohort of patients with **high health and tech literacy**
- Cohort of patients with **isolated and uncomplicated pathologies or high-prevalence diseases**
- **Long-term services** with fewer chances for patients to deteriorate between appointments
- **Diseases with intermittent flare-ups**
- Services where **the change to SOP is minimal**
- Specialties with a **simple governance structure**

## *High health and tech literacy*

Having patients with high health and tech literacy is important for digital PIFU pathways to be safe and effective. For a patient to be deemed eligible for the pathway, the clinician must be sure that the patient is willing and able to request an appointment through the application at the appropriate time (not too early and not too late). It is important to note that the current analysis does not indicate that age identifies

patients who may be ineligible for the service due to low-tech literacy. Therefore, services which cater to patient cohorts of older ages may still have a successful PIFU implementation.

## *Isolated and uncomplicated pathologies or high-prevalence diseases*

Feedback from clinical and operational engagement has also been that in most cases implementing PIFU is easier with less complex specialties and low-risk patient cohorts. This was highlighted for example in rheumatology, which has relatively low-complexity treatment and a clear pathway .

## *Long-term services*

There is also evidence that services where patients remain within the service for long periods of time are more successful. This has been clear in Rheumatology services. Patients may require follow-up care for life within this service. Therefore, patients having the opportunity to book an appointment as and when required has the potential to deliver significant benefits to the service.

# Part 1 - Most successful specialties/services and patients' cohorts

## *Diseases with intermittent flare-ups*

Much like longer-term services, it is clear that certain disease characteristics can determine the likelihood of success with PIFU implementation. Putting patients with diseases characterised by intermittent flare-ups see a greater reduction in unnecessary OP appointments and appointments occurring at the time of need.

## *Minimal changes to current SOP*

It is also easier when a similar process is already in place and the cost of implementing the PIFU system is close to zero for that specialty. For example, Rheumatology at Liverpool had already a process in place where patients could call if they needed an appointment before the next follow-up. The changes required to the process were hence minimal when digital PIFU was adopted.

## *Simple governance structure*

Although not applicable to all Trusts, another identified driver of a successful digital PIFU implementation across the Physiotherapy service at Guy's and St Thomas' was the way in which the specialty directorate sits within the wider Trust. The governance structure allowed the service to take risks to deliver benefits to its patients. They were not required to get formal sign-off from various levels of central governance to make changes to the process to make it work better for both staff and patients.

One of the key objectives for the future would be to prove that PIFU is specialty agnostic, through the use of remote assessments and the increase in clinical confidence. But there are complex pathways, such as Paediatrics or Oncology, that will always be less appropriate for PIFU.

# Part 2 - Digital PIFU successful implementation and roll-out

Digital PIFU roll-out requires changes in clinical pathways and administrative processes. Service managers and clinicians at various Trusts have reported that the biggest drivers of a successful implementation include:

- A digital **PIFU programme leader**
- **Clinical engagement** and alignment early on
- A clear, manageable **project plan and structure**
- Co-producing **Standard Operating Procedures (SOPs)** with the clinical team
- **Technical training**
- **Admin support**
- **Protected capacity** for PIFU patients
- Effective **communication with patients**
- Conduct **periodic reviews/audits** of PIFU pathways

## *PIFU programme leader*

The local programme leader is a fundamental player in promoting and setting up digital PIFU in a new Trust. It was observed that when there was supportive executive, operational and clinical leadership the Trust was able to get the most out of the service. For example, at Liverpool,

the programme leader strongly believed in the importance of using PIFU and their drive helped gain engagement from the service teams.

## *Clinical engagement and alignment early on*

Ensuring clinicians are on-board with digital PIFU from implementation to PIFU as BAU, requires significant buy-in. Therefore, a successful roll-out includes collaboration with clinicians in both the decision-making and throughout the implementation phase to ensure the process works well for both patients and clinicians.

## *A clear, manageable project plan and structure*

Services that have implemented PIFU successfully have indicated that defining each step of the implementation process from an operational perspective and having clear guidelines for staff participating in the process administration is key to success.

## *Co-producing Standard Operating Procedures (SOPs) with the clinical team*

PIFU requires changes in the staff's way of working. Therefore, for implementation to be successful, the outlining of key responsibilities for each task and who oversees the service when it is operational is essential. Trusts highlighted that this has been most successful so far when the SOPs are built-in with the clinical team during the initial stages of implementation.

# Part 2 - Digital PIFU successful implementation and roll-out

## *Technical training*

Although feedback indicates significant staff training on PIFU and new processes is not required, having someone on-site that explains how to use the tool, or organising workshops for clinicians and admin staff has been identified as a key element for the correct implementation and use of the system.

## *Admin support*

Nowadays, the NHS is undeniably under extreme pressure and clinical staff can associate PIFU with a risk of additional workload. To minimise this, Trusts pointed out that some tasks can be completed by admin staff. For example, processing and filtering requests. This has been found to ensure PIFU is positively accepted by clinicians and therefore, drives the success of the programme.

## *Protected capacity for PIFU patients*

Dedicated resources, including time for actions such as nurse telephone triage, providing advice and guidance and clinic slots to see PIFU patients, provide the capacity required for implementation and allows for commitment to using the system within the service.

## *Effective communication with patients*

It is important for patients to know that PIFU exists, how it works, where they need to go if they want to book a follow-up appointment, how long they are allowed to do it, etc. Therefore, getting the communication right is key to ensuring patient safety and minimizing the burden of inappropriate appointment requests.

## *Conduct periodic reviews/audits of PIFU pathways*

Conducting periodic PIFU pathway audits ensures patients' safety is maintained and makes sure that everyone is doing the right thing. Furthermore, it allows for learnings to be implemented to make the service even more successful.

# Part 3 - Barriers to consider

What have been highlighted as the biggest barriers to a successful digital PIFU implementation and roll-out are:

- **Lack of clinical engagement**
- **Shortage of staff resources** to implement the change
- **Speed**
- **Concerns and fears around patients' clinical safety** from a clinicians' perspective

## *Lack of clinical engagement*

We have identified clinician enthusiasm as a key driver of success to implementation of patient-initiated appointments. Many Trusts have found that often clinicians act as barriers to the required changes if the implementation is mandated by operational forces rather than clinician led. This barrier has been most successfully overcome from clinician-to-clinician conversations.

## *Shortage of staff resources*

With the constantly changing health needs of the population, the NHS is constantly adapting and evolving. This means that there are always new ideas and changes to service provision. This constant evolution alongside the significant pressure the NHS is under can lead to fatigue within Trusts and can add challenges to already struggling NHS employees. Reluctance to further change, for example implementation of PIFU, is therefore unsurprising. Although unsurprising, this reluctance can act as a barrier to implementation.

## *Speed of implementation*

Speed can also act as a barrier to greater uptake. Making changes to service processes sometimes requires various levels of sign-off that can slow down implementation.

## *Fears around clinical safety*

As with many changes to traditional ways of working, particularly when technology is involved, digital PIFU can lead to clinician concern around patient safety. This is also complicated by limited real-world evidence of digital PIFU. However, Guy's and St Thomas' reduced clinician concerns on patient safety by developing a dashboard to monitor PIFU patients. This has been incredibly successful in reducing clinician anxiety. Another successful way to reduce clinician anxiety is implementing both PIFU and Clinician-Initiated Follow-Up (CIFU) in parallel. CIFU can be supported by assessment tools which can be integrated within the DrDoctor offer.

### **When convincing clinicians/admin staff/service managers of the benefits of moving from a standard pathway to PIFU, the following caveats should also be considered:**

- Initially PIFU implementation might lead to additional referrals as a result of reduced waiting times.
- There might be more outpatient appointments with patients that are worse. The clinic time for these patients is in most cases not appropriate, as they need more scans, tests, etc. and it is also more tiring for clinicians.



# Part 4 - Lessons learnt and recommendations

This section explores some of the challenges that emerged throughout digital PIFU and PINA implementation and evaluates how Trusts have learnt from these as they continue adoption across other services. These learnings and recommendations can also be applied more widely to other organisations. They include:

- **Building awareness** to support PIFU adoption
- **Having the right/enough resources** to drive the change
- **Redesigning the existing process** and making sure that everyone is on-board
- Using **complementary tools**

## *Building awareness to support PIFU and PINA adoption*

Clinical engagement, communication between clinicians on their experience with the system, and the presence of clinical advocates, all helped to enhance and promote the benefits of patient-initiated appointments. Going forward, focusing on success stories on the clinicians' side and focusing interventions on patient awareness from the patients' perspective will help drive greater uptake within the Trust and patient demand for the service.

## *Having the right/enough resources to drive the change*


To deliver the potentially significant benefits from reduced outpatient appointments, there must be a sufficient investment and planning to make sure there are the right and most importantly, sufficient resources to support clinical teams with PIFU and PINA implementation. Without this, conversations promoting the product will be met with staff who are fatigued and are therefore reluctant/unwilling to devote time to another "innovative" service delivery transformation.

## *Redesigning the existing process and making sure that everyone is on-board*

It is inevitable that patient-initiated appointment pathways will change ways of working for staff. Although current digital PIFU services did not suggest formal training was required to ensure a successful implementation, it is important that changes are made to the service to minimise disruption. For example, at Liverpool, the RTT form was adapted to include an option for the admin team to select for patients discharged to PIFU. Without this small change, the admin team may have experienced delays in reporting. In general, Success in services that have already implemented digital PIFU and PINA pathways has included administrative, operational and clinical alignment at the earliest stage possible

# Part 4 - Lessons learnt and recommendations

## *Using technological support*



One of the significant benefits of using a digitalised PIFU pathway, is the opportunity to innovate and adapt the product to service need. For example, a simple digital PIFU pathway can be combined with assessment and remote monitoring tools and performance dashboards. Assessment and remote monitoring tools can be used to allow clinicians to track patients' health at regular intervals without the need

for a scheduled appointment. These assessments can prompt a CIFU appointment if deemed necessary and can significantly lower clinician anxiety. Similarly, services can use data collected to manage PIFU patient lists and keep track of patients. These can be adapted based on service needs.

*Guy's and St Thomas' said they "...have worked hard to make the implementation of digital PIFU work for both patients and staff whilst ensuring it also delivers the reduction in unnecessary appointments the service needs. Our focus has been on improving the patient experience rather than seeing the implementation of this service transformation as a way to reduce costs. This way of thinking about the system has been key during implementation and has the credit for its success".*

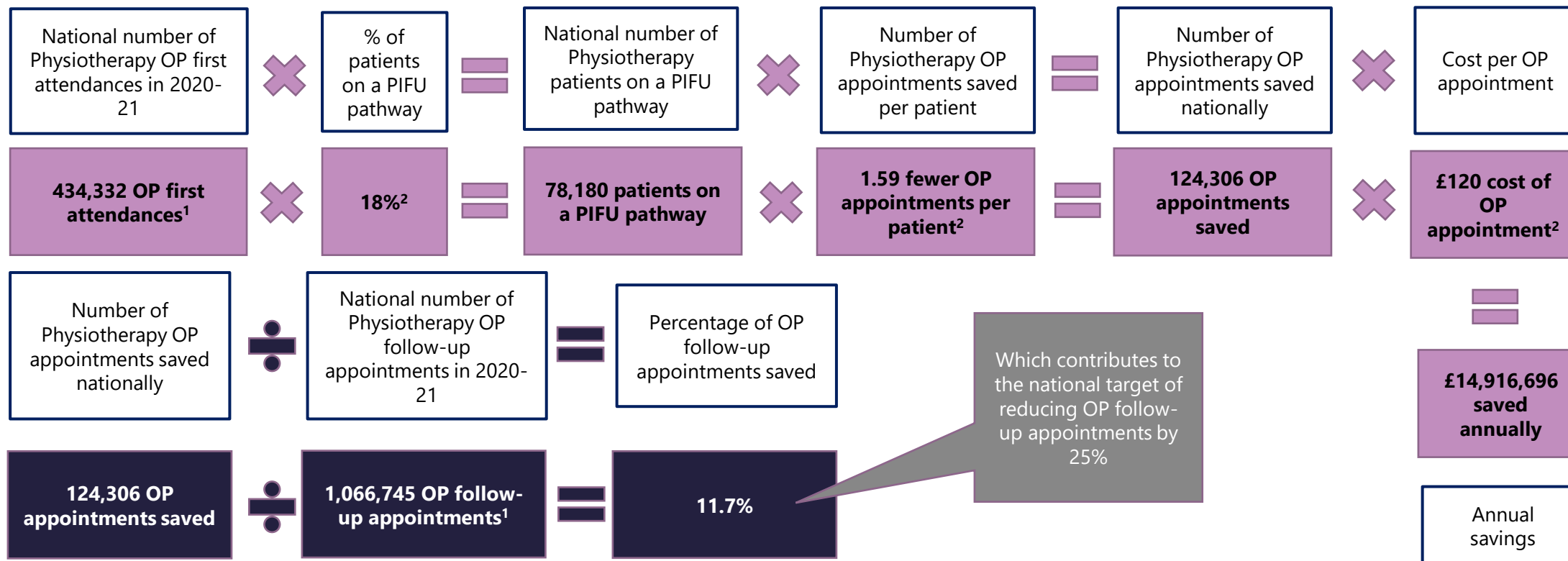


# 4

National Opportunity  
from Patient Initiated  
Appointments

# High volume low complexity services: Physiotherapy

This section demonstrates the future potential of patient-initiated appointments if the system were to be used across all Trusts nationally. Below is the national impact of PIFU for a high-volume low complexity service (Physiotherapy) in terms of OP appointments savings and system financial savings. These savings will enable the redistribution of costs within the system to ensure patients get the care they need, when they need it.



1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>  
 2. Source: estimate based on GSTT and Liverpool data  
 3. Source: <https://www.england.nhs.uk/2018/10/nhs-to-trial-tech-to-cut-missed-appointments-and-save-up-to-20-million>



# National opportunity from PIFU: selected low complexity specialties

The findings in this report indicate potential significant benefits from PIFU across several different specialties, both financial and non-financial. Alongside services like Physiotherapy, there are some more complex services, such as Beçhet's disease (Rheumatology), for which PIFU implementation has been highly successful. Even though volumes of patients with these diseases at a single Trust are very low and therefore there is less opportunity for significant financial savings to systems, it still delivers the important patient benefits described.

From a national perspective, however, there is potential for PIFU to generate savings within these smaller high complexity services in combination with the high-volume low complexity specialties. Below are some estimates of how financial savings from PIFU can vary across a range of low complexity services (using the assumption that all the specialties reach the average of 18% of patients on PIFU as Physiotherapy GSTT).

Specialty	18% (national target) of all national OP first attendances in 2020-21 <sup>1</sup>	Estimated avoided follow-up appointments per patient on a PIFU pathway <sup>2</sup>	Number of OP follow-up appointments saved nationally	Cost per OP follow-up appointment <sup>3</sup>	Annual savings
Audiology	56,909	1.77	100,729	£120	£12,087,429
Trauma and Orthopaedics	227,552	1.24	282,165	£67	£18,905,053
Rheumatology	35,528	1.08	38,371	£98	£3,760,326
ENT	105,116	0.96	100,912	£57	£5,751,969
Urology	81,680	0.83	67,795	£71	£4,813,426
Pain management	14,468	0.81	11,719	£87	£1,019,588

1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>

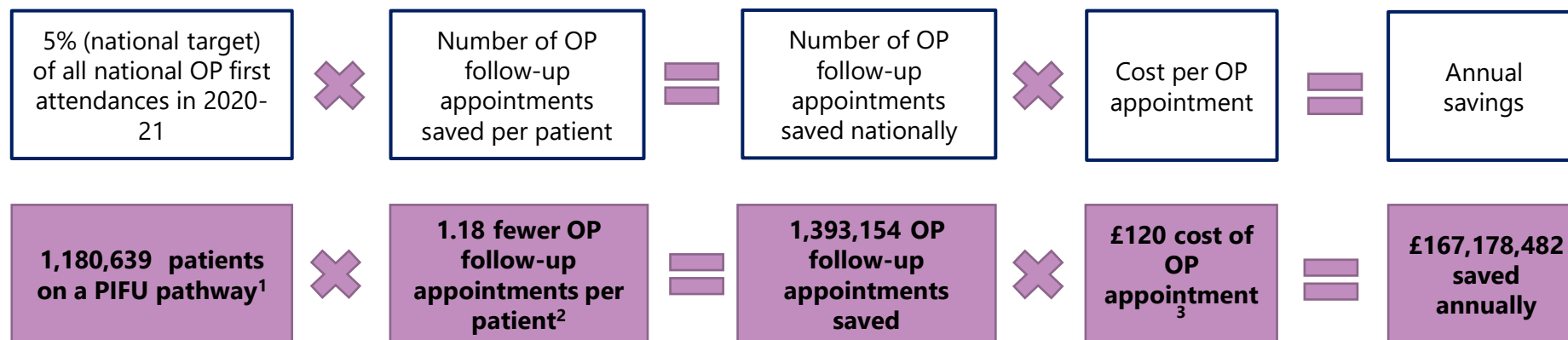
2. Source: <https://www.england.nhs.uk/wp-content/uploads/2022/05/B0801-implementing-patient-initiated-follow-up-guidance-1.pdf>

3. Source: 2022/23 national tariff workbook (Annex A) - updated for pay award

# National opportunity from PIFU

If these assumptions are scaled across all specialties, there is an even greater savings estimate.

If we assume that the general national 5% target of all OP patients on a PIFU pathway is reached and that the reduction in the number of follow-up appointments is about 1.18<sup>2</sup>, it is estimated that 1,393,154 OP follow-up appointments could be saved nationally for an annual system saving of at least **£167,178,482**.



A lot of specialties, at high performing Trusts, are already achieving the 5% target and exceeding it (e.g., at GSTT high-volume specialties have about 20% of their patients on a PIFU pathway). If these rates are achieved by all high-volume services across all Trusts along with all other specialties reaching the 5% target, the system-wide savings estimates outlined above could be even higher.

1. Source: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/2020-21>
2. Source: estimate based on GSTT data and NHS Digital publicly available data
3. Source: <https://www.england.nhs.uk/2018/10/nhs-to-trial-tech-to-cut-missed-appointments-and-save-up-to-20-million/>

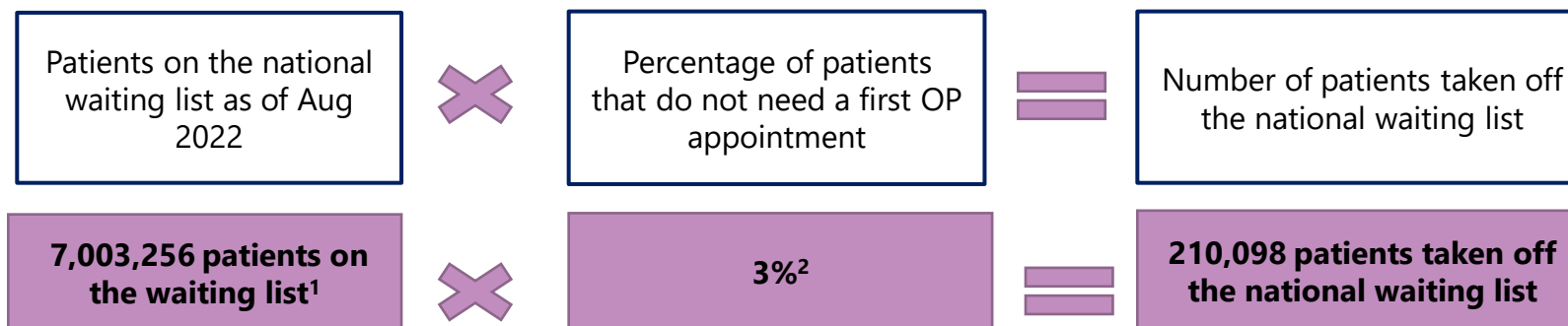
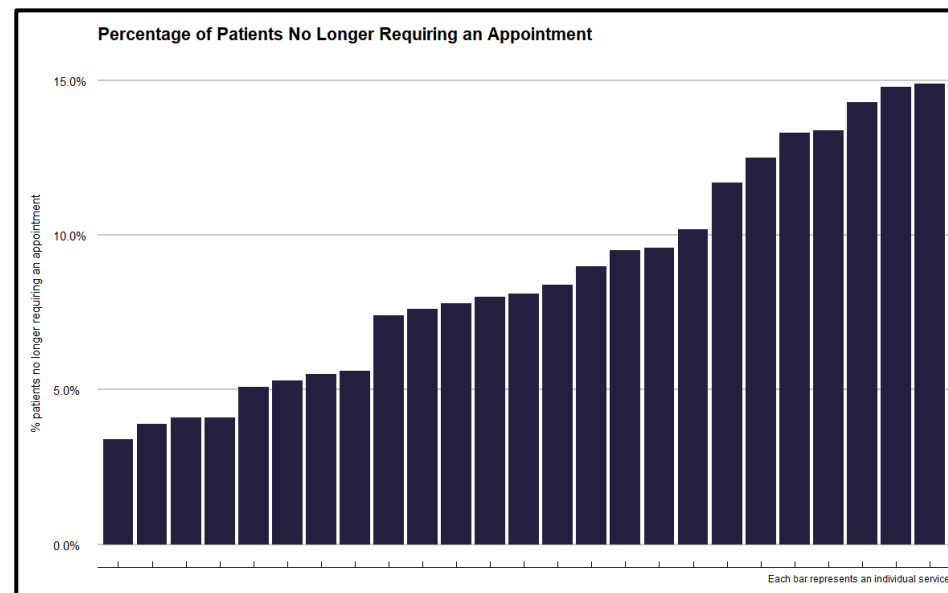
# National waiting list opportunity from PINA

From a waiting list perspective, PINA can help reduce the number of unnecessary first appointments at a Trust, in a similar way to PIFU.

This is significant as DrDoctor data, collected across several Trusts and services for a waitlist validation campaign, shows that between 3-15% of patients on a waiting list do not need an outpatient appointment by the time they get contacted (as shown in the figure).

If we assume a similar impact of PINA on waiting lists, we can calculate a national opportunity if PINA is rolled out across the country. Given PINA is only appropriate for patients triaged as "mild" in low complexity services, we have used the lower end of the range (3%). This ensures our estimates are conservative and do not inflate the potential opportunity in higher complexity services with a lower percentage of appropriate patients.

By removing eligible patients who do not actually need a first OP appointment and are appropriate for PINA, the waiting list size could be reduced by around **210,098** patients every year.



1. Source: <https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2022-23/>

2. Source: DrDoctor waitlist validation campaign data