Health Innovation
Kent Surrey Sussex

Unity Insights

Rapid Health's Smart Triage

Evaluation report

September 2024

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Executive summary

Context

Like many parts of the NHS, general practice is under intense pressure. Due to high demand at GP practices, patients are often seen on a first come, first served basis, which can lead to patients who require urgent care being unable to receive an appointment when they require one (North West London ICS, n.d.). Care navigators balance a large number of tasks, resulting in a high cognitive load (Litchfield et al., 2022), the pressure placed on them is particularly high during the '*8am rush*'. Similarly, job satisfaction for GPs is low in the UK; only 24% of GPs are either extremely or very satisfied with practicing medicine, a decrease from 39% in 2019 (Beech et al., 2023).

Rapid Health's Smart Triage is an autonomous patient triaging system that aims to improve access for patients and enable better management of demand and capacity. Patients submit care requests online either independently or assisted by care navigators by telephone or in person. The request is then triaged based on the urgency of the patient's needs to allocate them a suitable appointment slot.

The Groves Medical Centre started implementing Rapid Health on 30th October 2023. Unity Insights were commissioned by Health Innovation Kent Surrey Sussex and Rapid Health to evaluate the impact of Rapid Health's Smart Triage from October 30th 2023 to February 29th 2024 at The Groves Medical Centre.

Method

Quantitative analysis

Quantitative data from The Groves Medical Centre, Rapid Health, and NHS Digital were analysed through descriptive and statistical analyses.

Quantitative data examined the appointment slots obtained when requesting care through Rapid Health's Smart Triage compared to appointment slots in the pre-implementation period that could have been requested through Rapid Health's Smart Triage, if the system was implemented at the time.

Telephone call data was also obtained, presenting the aggregated number of inbound, answered, missed, and abandoned calls in the pre- and post-implementation periods.

Qualitative analysis

Staff members were surveyed pre- and post-implementation. Patient perspectives were captured through a post-implementation survey, and through the Friends and Family survey before and after Rapid Health's Smart Triage. All surveys were analysed through thematic analysis and frequency distributions.

Results

Quantitative insights

- Median patient waiting times reduced by 73%, from 13 days to 4 days, for pre-bookable appointments; reducing the upper waiting time range.

- 47% fewer phone calls at 8am, with a 58% reduction in the maximum number of concurrent calls, showing a reduction in the "*8am rush*".
- The proportion of patients triaged for on-the-day appointments dropped from over 62% to just 19%, compared to a 44% national average, significantly increasing the capacity for pre-bookable appointments.
- 70% fewer patients requested a repeat appointment (for example, within two weeks of the first appointment), in the post-implementation period.
- 85% of appointments booked via Rapid Health's Smart Triage were face-to-face, a 60% increase over comparable slots in the pre-implementation period.
- 18% of all patient requests were initiated over the phone in the post-implementation period versus 88% in the pre-implementation period.
- 91% of appointments booked via Rapid Health's Smart Triage were instantly and automatically allocated, without needing any staff input (online) or any clinical input (telephone, in person).
- At any given time of day, each patient requesting care on Rapid Health's Smart Triage was offered an average of 61 appointment slots to choose from.
- More appointments requested via Rapid Health's Smart Triage were conducted by GPs compared to pre-implementation (12% versus 8%), despite no additional staff being hired and the recent move to 15-minute GP appointments at the time of the evaluation.
- 10% reduction in patient DNA rate, despite already low DNA rate when compared with the national figure (3.6% and 4.6% respectively).

Qualitative insights

Please note that the post-implementation staff survey was conducted 15 weeks after the go-live date for Rapid Health's Smart Triage, meaning that results should be viewed as early-stage results. The patient survey also had a low response rate of 20 patients (out of 17,500 registered patients), despite repeated efforts by The Groves Medical Centre.

- 30% of staff were satisfied with the use of Rapid Health's Smart Triage.
- Staff found Rapid Health's Smart Triage easier to use compared to the previous appointment booking system (57% agreed, versus 25% agreed).
- Patients in the Friends and Family survey had similar proportions of positive experiences of the service provided by The Groves Medical Centre in the pre-implementation (93%) and post-implementation (89%) periods.
- Feedback from patients was mixed around whether Rapid Health's Smart Triage was easier to use compared to the previous pathway when submitting medical requests;

73% of patient survey respondents disagreed with the related statement.

- Feedback from patients was mixed around whether submitting requests via Rapid Health's Smart Triage was less stressful compared to the previous pathway; 65% of patient survey respondents disagreed with the related statement.

Limitations

- When comparing the pre- and post-implementation periods, only data from attended appointment slots could be used, as patient medical and admin request data was not available for the pre-implementation period.
- Given the timing of the survey, patient and staff survey responses were likely to have reflected opinions on the wider change in the pathway, not just on the implementation of Rapid Health's Smart Triage.

Recommendations

- Involve patients and staff in the continuous refinement process by conducting regular co-design sessions with patients and staff to further monitor satisfaction levels.
- Further explore the evidence indicating a reduction in A&E visits to understand the effectiveness and value of Rapid Health's Smart Triage.
- Regularly review the appropriateness of navigation settings within Rapid Health's Smart Triage to help manage demand and capacity more effectively.

Conclusion

Despite the winter pressure and the fact that the evaluation only captured the first four months of implementation, Rapid Health's Smart Triage demonstrated improved access to care by enabling patients to request and instantly book appointments online and submit admin requests, which contributed to more efficient management of demand and capacity. The triage allowed for prioritisation of patients requiring urgent care, ensuring that those with the greatest urgency received timely care, while also reducing the average wait time for all patients. Although feedback from both staff and patients was mixed, this may be attributed to change impact or the possibility of a low response rate leading to an unrepresentative sample. To address this, it is crucial to regularly engage with both groups to ensure that any feedback can be addressed appropriately. Finally, it is encouraging to observe that the results from the July 2024 Friends and Family survey highlight that online access is now the most preferred channel at The Groves Medical Centre.

1. Introduction

1.1. Context and background

Primary care teams act as the first point of contact for those seeking treatment from the NHS and are central to many communities, with over a million people benefiting from primary care everyday (Fuller, 2022). There are signs of genuine and growing discontent with primary care services, both from the public who use the NHS and the professionals who work within the NHS (Bostock, 2022; NHS England, 2023b).

According to the *GP Patient Survey*, satisfaction regarding the patient experience when contacting and booking a GP appointment is decreasing (NHS England, 2023b). For example, in the 2023 GP Patient Survey, 50% of patients found it easy to contact their GP practice by phone, which fell from 53% in 2022 and 68% in 2021. When making an appointment, 54% of patients in 2023 reported a '*good*' overall experience, compared to 56% in 2022 and 71% in 2021. In 2024, the GP Patient Survey results reported that 50% of patients found it easy to contact their GP practice by phone and 67% of patients reported a '*good*' overall experience (NHS England, 2024d). This indicates that patient experience has improved for the first time in years.

The '*8am rush*' is defined by a large number of patients calling their GP practice at its opening time to try and acquire a same day appointment; this is a '*first come, first served*' system (Department of Health and Social Care, 2023). This can result in some patients requiring urgent care being unable to receive an on the day appointment, leading to a lack of equitable care (North West London ICS, n.d.) Indeed, appointments run out quickly and patients unable to receive an appointment are asked to call again the next day or present to the UTC and accident and emergency (A&E) services regardless of their level of urgency (Department of Health and Social Care, 2023).

Primary care is also facing substantial workforce pressure, with more GPs describing their workload as unmanageable and opting to retire early (Bostock, 2022). The number of registered patients within GP practices is increasing each year, whilst GPs are leaving their professions (British Medical Association, 2024b). The British Medical Association (2024b) highlighted that there are currently 0.44 fully qualified GPs per 1,000 patients in England. Moreover, job satisfaction for GPs is low in the UK; only 24% of GPs are either extremely or very satisfied with practicing medicine, a decrease from 39% in 2019 (Beech et al., 2023).

Workload Control in General Practice: Ensuring Patient Safety Through Demand Management by the British Medical Association (2018) also states that a GP must have no more than 25 patient contacts per day to allow safe care delivery. Despite this, *A proposal to reform general practice and enable digital healthcare at scale* (Philips et al., 2022) noted that GPs see on average 37 patient contacts per day. The standards set by The British Medical Association (2024b) outline that no more than three hours per session should be spent completing patient consultations as spending more time can result in harm to patients and clinicians.

Litchfield et al. (2022) identified that although 96% of medical receptionists considered their role as important, almost half of medical receptionists (44%) were unsatisfied with their role. Receptionists at GP practices balance a large amount of tasks, resulting in a high cognitive load (Litchfield et al., 2022). The pressure placed on medical receptionists is particularly high at 8am, during the '*8am rush*'.

To tackle this multifaceted challenge, NHS England (2023a) published the *Delivery plan for recovering access to primary care*, which highlighted the implementation of '*Modern General Practice Access*' in line with the new GP contract (NHS England, 2024a). This approach has three elements:

- Enhanced digital telephony.
- Simplified online requests.
- Faster navigation, assessment, and response.

Following these changes, it is a requirement that GP patient appointments will be triaged based on clinical need, whilst allowing patients to access care by telephone, face-to-face, and online. *Modern General Practice Access* aims to increase appointment capacity, offering more appointments from a greater variety of staff member roles. An added £385 million in 2023/24 was spent by the NHS to employ 26,000 more patient care staff to deliver 50 million more appointments by March 2024.

Emerging from the pandemic, many practices and primary care networks (PCNs) are seeking to improve their services based on elements of the COVID-19 response, such as implementing digitally enabled pathways to meet local needs and overcome the '*8am rush*'. Within this, remote consulting and triage has been suggested to facilitate efficient delivery of care. The British Medical Association (2024b) suggested that such methods can allow practices to provide more flexible patient appointment slots, triage patients to the most appropriate area for care, and prioritise those with urgent care needs.

As the pathway to requesting care changes, the role of the medical receptionist changes to become a care navigator. These staff members gather patient information to match the patient to the correct staff member in the multi-disciplinary team (NHS England, 2023a). To facilitate this change, a National Care Navigation Training Programme has been made available for 6,500 staff (NHS England, 2023a). By changing the role of a medical receptionist, it is expected that continuity of care will improve. Currently, 15% of current GP appointments could be navigated to other services such as community pharmacy, administration teams, or local services (Malby et al., 2018).

Most practices previously hosted 10-minute GP appointments (NHS England, 2019). Extending GP appointments to 15 minutes could help reduce the need for unnecessary repeated GP consultations, whilst maintaining care quality and improving patient satisfaction. *Safe working in general practice* (British Medical Association, 2024b) highlights that the move to 15-minute appointments can be completed by reducing the number of appointments per session, allowing GPs to spend the same amount of time per day tending to patients.

Finding ways to manage patient appointment demand appropriately, by offering appointments based on need and utilising a full range of primary care health professionals, could help support implementation of the *Modern General Practice Access* model and tackle the multi-faceted challenges faced by primary care.

1.2. The Groves Medical Centre

The Groves Medical Centre is a GP practice in NHS South West London Integrated Care System (ICS) that specialises in maternity and midwifery services, family planning, treatment of disease, disorder, or injury, surgical, diagnostic, and screening procedures, and services for everyone (Care Quality Commission, 2024). The Groves Medical Centre is part of a wider group of GP practices and one of the leading family medical centres in Surrey and South-West London. Table 1 highlights the breakdown of clinical and non-clinical staff roles at The Groves Medical Centre.

Table 1: Clinical and non-clinical staff roles at The Groves Medical Centre.

Clinical staff	Non-clinical staff
15 general practitioners (GPs)	14 receptionists
4 advanced nurse practitioners (ANPs)	3 secretaries
3 practice nurses	3 administrators
4 healthcare assistants (HCAs)	
3 pharmacists	
1 physician associate	
1 mental health nurse	
1 first contact practitioner	

As of June 2024, The Groves Medical Centre cared for 17,500 patients (NHS Digital, 2024d). The patient population at The Groves Medical Centre was 51% female (*n* = 14,919) and 49% male (*n* = 14,091). Most patients were aged between 30 and 69 years old (63%; *n* = 18,364) and were White (61%).

The *GP Patient Survey* conducted by NHS England (2023b) at The Groves Medical Centre between June 2023 and October 2023 identified that 59% of patients successfully obtained an appointment slot during their last attempt. Moreover, 82% of patients rated their healthcare professional as *'good'* at giving them enough time, with only 4% expressing dissatisfaction in this area. Overall, 67% of patients reported a 'good' experience at the practice, while 17% rated their experience as *'poor'*. In a review completed in 2023, the practice had a Care Quality Commission inspection rating of '*inadequate'* (Care Quality Commission, 2024).

The *GP Patient Survey* (NHS England, 2023b) also highlighted areas needing improvement at The Groves Medical Centre. A large proportion of patients (71%) found it '*not easy*' to get through to someone at The Groves Medical Centre by phone. Additionally, only 45% of patients were satisfied with the available appointment times, and when it came to the process of making an appointment, 45% described their experience as *'good'* while 40% characterised it as *'poor'*. These findings underscore the mixed feedback from patients and point to specific areas where the practice could enhance its services.

When requesting an appointment at The Groves Medical Centre before the implementation of Rapid Health's Smart Triage, patients would request an appointment either over the phone or in person and would receive a call back with an appointment slot if appropriate. If all appointments were filled, patients were usually asked to go to the urgent treatment centre (UTC) or A&E if urgent, or to call back the next day if not urgent.

The soft launch of Rapid Health's Smart Triage occurred on 18th September 2023, with the official go-live date in The Groves Medical Centre taking place on 30th October 2023. It should be noted that Rapid Health's Smart Triage was commercially deployed, hence not considered a trial implementation. (NHS England, 2023b).

1.3. Rapid Health's Smart Triage

Rapid Health's Smart Triage is a UKCA-marked triaging system utilised by approximately 100 practices across the UK, and covering over one million patients. The system streamlines appointment booking, workflow management, and appointment allocation based on staff capacity and patient clinical need. The system offers three products, which form the Smart Practice suite (Rapid Health, 2024):

- **Smart Triage:** Autonomously triages, navigates, and instantly allocates and books patients into the correct appointment slots based on clinical need and staff capacity without practice staff intervention.
- **Smart direct booking:** Patient-initiated self-booking for vital screening and prevention services, such as immunisations, smear tests, first contact physio, and more. The system checks patient eligibility prior to allowing them to self-book.

- **Patient direct booking:** An appointment link generator to allow creation of advanced and highly configurable patient self-booking links.

Smart Triage was implemented at The Groves Medical Centre to perform patient assessments when care is requested (Figure 1; Rapid Health, 2023c). This consists of the patient selecting the symptoms they are experiencing, the request being triaged to determine its level of urgency following the symptoms selected, and then the patient being navigated to the most appropriate care setting. The system is powered by Rapid Health's clinical intelligence engine, which includes a validated clinical knowledge base algorithm. The patient assessment proposed by Rapid Health are not linear or decision-tree based: no conclusion is made or element ruled out until the whole assessment has been completed. On average, a typical assessment takes a patient 3.5 minutes to complete and, if appropriate, allows them to book an appointment.

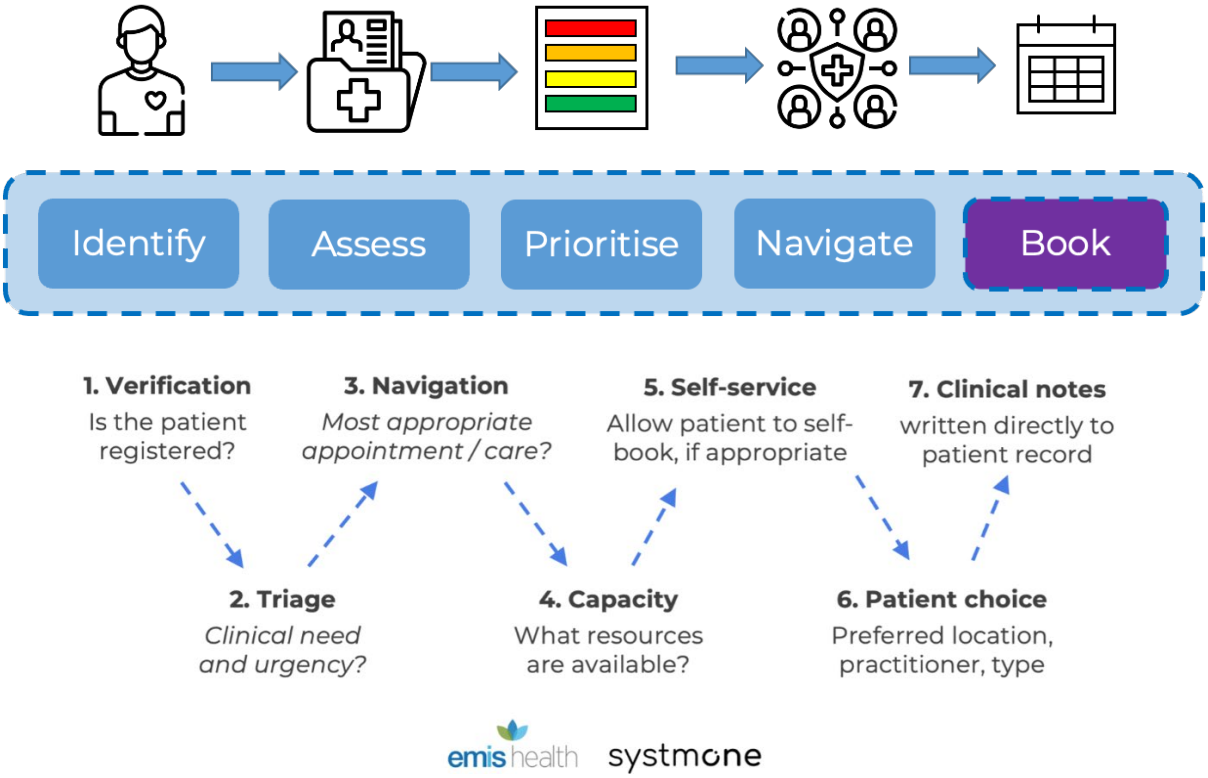

Figure 1: The overall Rapid Health Smart Triage process.

GP practices, such as The Groves Medical Centre, use Rapid Health's Smart Triage to autonomously assess, triage and respond to incoming patients requests, including booking an appointment. This avoids reliance on care navigators to triage all requests. By liberating both administrators and clinicians from the triage process, the speed, safety, and accuracy of patient triage are enabling an improved delivery of care. Figure 2 depicts the pathway of a patient who uses Rapid Health's Smart Triage to receive care at The Groves Medical Centre.

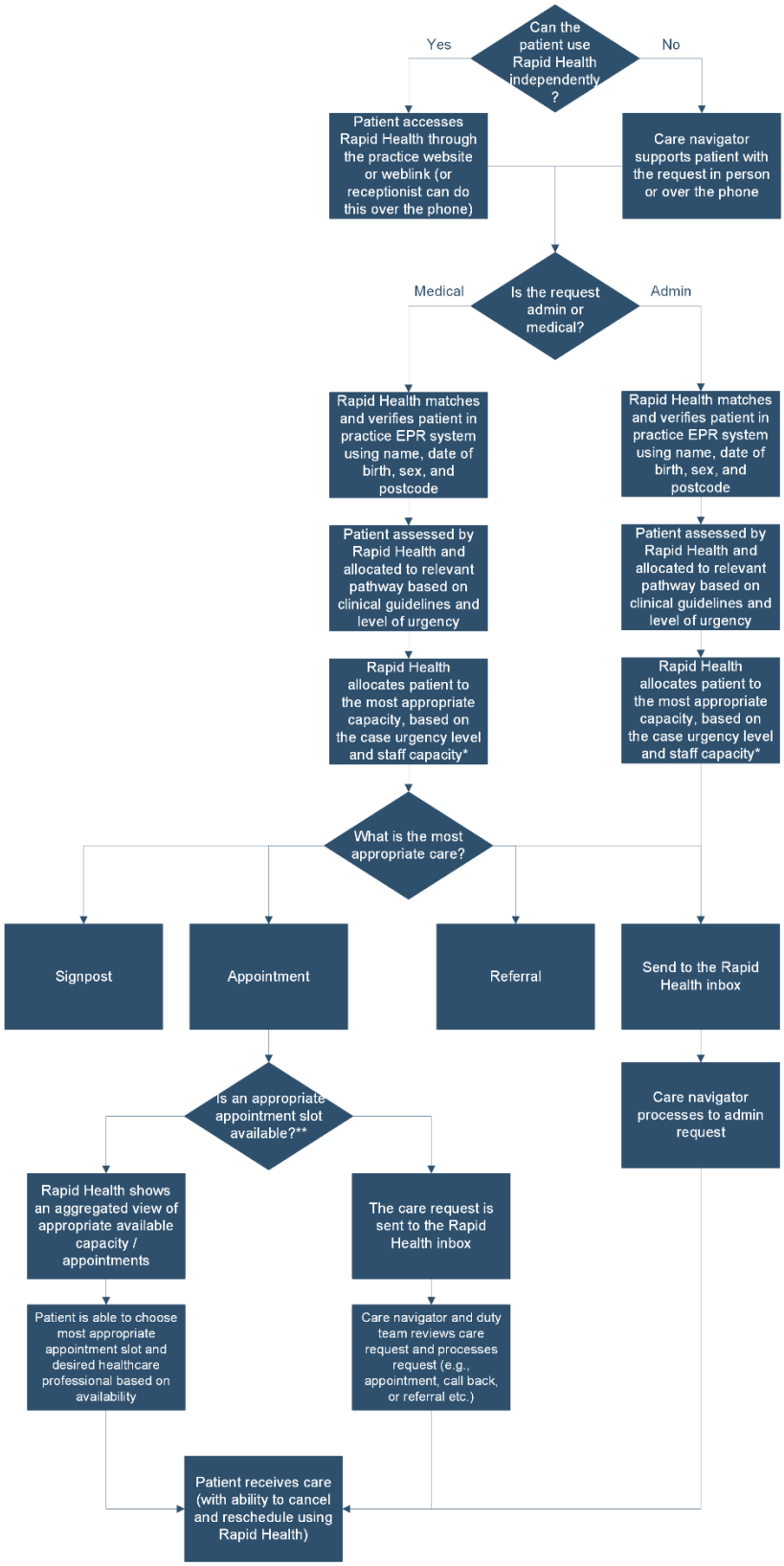

Figure 2: The pathway of a patient requesting care through Rapid Health's Smart Triage at The Groves Medical Centre. All of the process is completed by Smart Triage itself.

Figure 3 highlights the pathway when Rapid Health's Smart Triage suggests a patient may require A&E care at The Groves Medical Centre. If the patient does not agree with the triage, they can answer further questions to reassess their urgency. Patients who do not require urgent secondary care treatment are triaged back to primary care, where they can receive appropriate care based on their level of urgency.

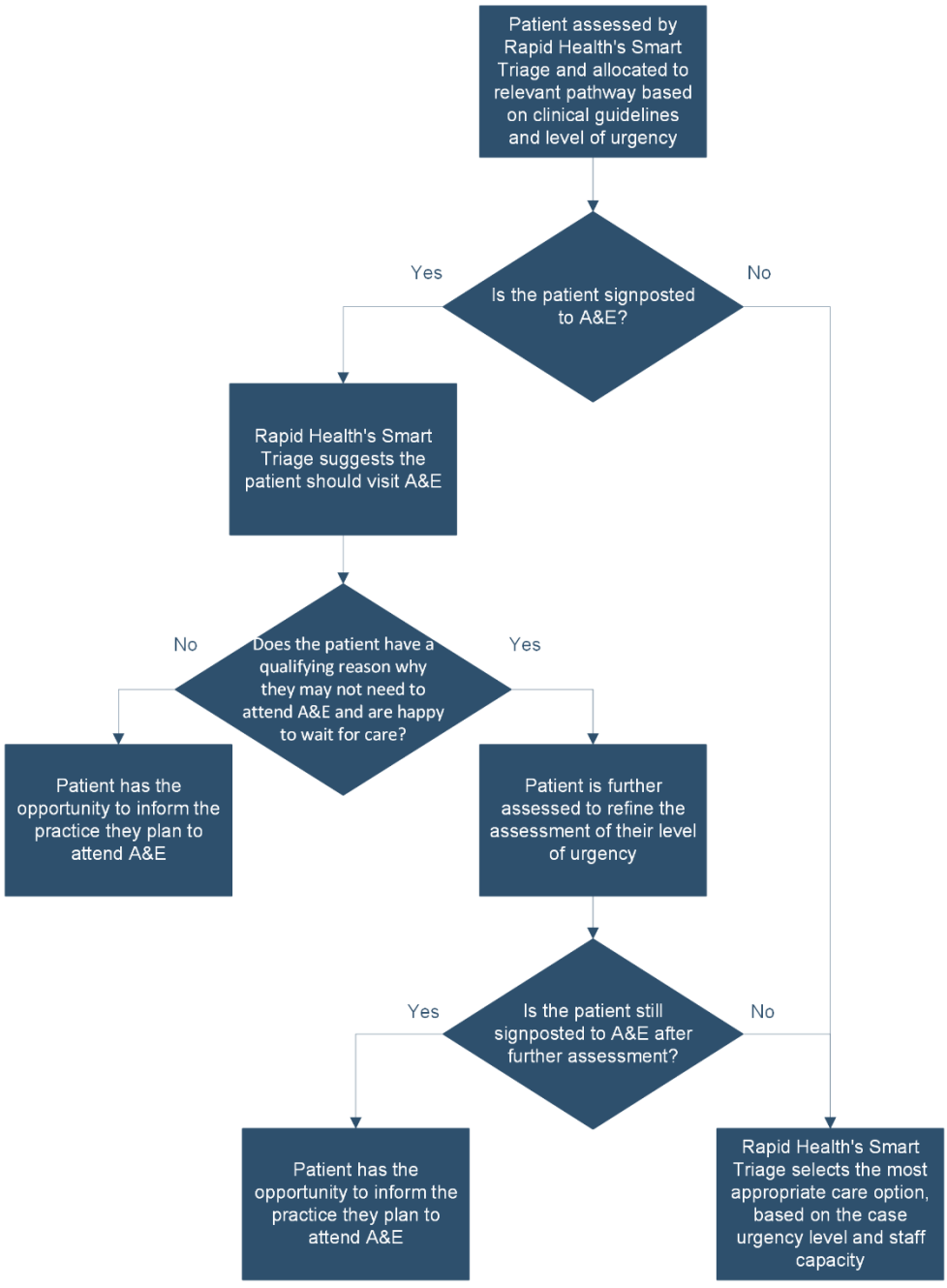

Figure 3: The pathway when Rapid Health's Smart Triage suggests a patient requires A&E care at The Groves Medical Centre.

It should be noted that this pathway is only applicable for patients 16 years old and over. Younger patients would contact The Groves Medical Centre by telephone or visit the practice in person to request care. Here, the care navigator would triage the patient themselves based on the patient's urgency and provide them with either an on the day or pre-booked appointment. Rapid Health's Smart Triage are currently in the process of launching a paediatric feature to allow patients under 16 to request care through Rapid Health's Smart Triage. This feature is set to launch in September 2024.

With its triage and booking functionalities, Rapid Health's Smart Triage aims to:

- **Allow patients to request care online 24/7**, whilst also allowing appointments to be requested by telephone and in person. This can help alleviate the '*8am rush*' by reducing call volumes to the practice, reducing the clinical and administrative burden of reviewing, triaging, and processing online consultation requests.
    - The practice website displays a link to request care where Rapid Health's Smart Triage can access and triage the patient and then allow patients to instantly book a clinically appropriate appointment, should it be needed. Further, a patient can also receive a link when phoning the practice to book an appointment online instead.
- **Reduce pressure on GP practices** by ensuring that on the day appointments are reserved only for patients requiring urgent care and all other requests can be pre-booked in advance.
    - According to NHS Digital (2024a), 44% of appointments take place on the same day that they are booked. This highlights the need to reduce this added same day pressure through effective demand management.
- **Avoid over-triaging and under-triaging patients** through ensuring early access and timely care. Patients are also asked more questions to determine whether they do in fact require secondary care services (Figure 3).
    - In primary care, 13% to 19% of appointments are over-triaged, meaning these patients are classed as requiring urgent care when they in fact do not (Nguyen et al., 2022a). Further, 10% to 19% of appointments are under-triaged, meaning these patients are classed as not requiring urgent care when they in fact do.
- **Facilitate GP appointments**, rather than avoid GP appointments through improving operational workflow through better management of staff workload, unlocking clinical capacity that can be redistributed to delivering patient care. This can also facilitate the move to 15-minute appointments by allowing clinicians to have the capacity to spend more time with each patient.
    - Previous research identified that use of online tools has led to misdiagnoses and unidentified illnesses, ultimately delaying care (Campbell, 2024; Lind, 2024). Rapid Health's Smart Triage aims to facilitate appointments in a way

that ensures staff see patients who require care urgently by unlocking capacity and increasing access to care.

1.4. Purpose of the evaluation and current report

Unity Insights were commissioned by Health Innovation Kent Surrey Sussex (Health Innovation KSS) and Rapid Health to conduct an evaluation on the real-world impact of Rapid Health's Smart Triage at The Groves Medical Centre on patients, healthcare professionals, and the healthcare system. Health Innovation KSS have supported the commissioning of this evaluation.

The current report contains a comprehensive presentation of the evaluation methodology, along with the findings from the current evaluation. Findings are presented as the factual results found from qualitative and quantitative data analyses, before being interpreted with additional relevant context in the discussion section to draw out valuable insights. Finally, the report provides key recommendations, concluding remarks alongside limitations to the findings to consider when interpreting the results.

2. Methodology

2.1. Logic model workshop

Unity Insights conducted a logic model workshop attended by Rapid Health, The Groves Medical Centre, and Health Innovation KSS to understand the expected benefits associated with the implementation of the Rapid Health's Smart Triage solution. Findings were collated and summarised by Unity Insights, before being sent to stakeholders for final comments and feedback. Overall, the logic model concluded that Rapid Health's Smart Triage's expected benefits were to:

- Improve patient access to care
- Improve management of demand and capacity in primary care
- Facilitate more sustainable working patterns
- Support a more effective use of community and secondary care resources
- Improve the patient care experience

- Increase staff satisfaction

For more information, please see 'Appendix A: Logic model workshop'.

2.2. Evaluation questions

The following evaluation questions were examined in the evaluation:

1) Does Rapid Health's Smart Triage lead to improved access to care?
    a. Does Rapid Health's Smart Triage exacerbate or mitigate health inequalities?
2) Does Rapid Health's Smart Triage lead to an improved care experience for patients?
3) Does Rapid Health's Smart Triage lead to more sustainable staff working patterns?
4) Does Rapid Health's Smart Triage lead to an increase in staff satisfaction?
5) Does Rapid Health's Smart Triage lead to better management of demand and capacity in primary care?
6) In what ways does Rapid Health's Smart Triage support the ambitions of the *Delivery plan for recovering access to primary care*?

2.3. Evaluation setting and timeframes

The current evaluation examined the impact of Rapid Health's Smart Triage at The Groves Medical Centre in Surrey.

The evaluation period was divided into pre-implementation and post-implementation phases to assess the impact of the Rapid Health's Smart Triage appointment booking system. The pre- and post-implementation periods spanned from 29th June 2023 to 29th October 2023 and from 30th October 2023 to 29th February 2024 respectively (with 30th October 2023 being the go-live date). It should be noted that the soft launch of the system took place on 18th September 2023, during the pre-implementation period. Some sub analyses were conducted using data from previous years (Section 2.6). It should be noted that Rapid Health's Smart Triage remained switched on throughout the entire post-implementation period for all admin and medical requests, with the exception of one day where the system was switched off.

2.4. Definitions list

Table 2 depicts the definitions used within the current evaluation.

Table 2: Definitions list.

Term	Description
Pre-bookable appointment slot	An appointment where the request date does not occur on the same day as the appointment slot date.
On the day appointment slot	An appointment where the request date does occur on the same day as the appointment slot date.
Request	A medical or admin request made via Rapid Health's Smart Triage.
Consultation time	Consultation time could not be captured directly. As a proxy, the evaluation considered the time taken from an EMIS user opening the consultation in EMIS and the EMIS user then saving and closing the consultation in EMIS instead.
Answered telephone call	Staff members answering the phone to patients.
Abandoned telephone call	A patient phoning the practice, then hanging up before selecting an option on the main menu. Patients will hear a message highlighting the ability to complete care requests online via Rapid Health's Smart Triage. There is no way to determine the reason for the patient hanging up the telephone.
Missed telephone call	A patient phoning the practice, then running through the second set of options presented, then pressing a number to receive a text message with the link to submit an appointment through Rapid Health's Smart Triage.

2.5. Evaluation population

The identified cohorts for the Rapid Health's Smart Triage evaluation were staff and registered patients at The Groves Medical Centre.

GP practice staff

The Groves Medical Centre consisted of approximately 50 staff (Section 1.2). Staff members, including both clinical and administrative staff, at The Groves Medical Centre were examined in the current evaluation at different time points depending on the analysis conducted (Section 2.6; Section 2.7).

Patients

Registered patients at The Groves Medical Centre who were 16 years or older were examined in the current evaluation. On average, there were 17,557 patients at The Groves Medical Centre between June 2023 and October 2023 (median = 17,553) and 17,647 patients between October 2023 and February 2024 (median = 17,650). Across the whole period, there were 17,601 patients registered on average (median = 17,608), where, of this proportion, 246 had a registered disability (1%). Please see 'Appendix C: Quantitative insights continued' for the number of registered patients by month.

2.6. Quantitative analysis

The quantitative analysis sought to understand the quantifiable impact of Rapid Health's Smart Triage to answer the evaluation questions. The following subsections outline the key data sources used and the methods applied as part of the evaluation.

Data collection

The evaluation questions (Section 2.2) were shared with the project stakeholders to inform the discussion around the data collection. The latter focused on metrics that related to patient experience, practice activity, as well as demand and capacity management. Data was provided by The Groves Medical Centre and Rapid Health. NHS Digital data was also used to compare trends across different geographical scales (regional, national) and time horizons (for more information, please see 'Appendix B: Quantitative methodology'). A full list of metrics is also provided in 'Appendix B: Quantitative methodology continued'. The following datasets were used within the analysis.

NHS Digital

PATIENTS REGISTERED AT A GP PRACTICE

To understand the number of registered patients per month at The Groves Medical Centre, the *Patients Registered at a GP Practice* dataset by NHS Digital (2024a) was analysed. Data from June 2023 to February 2024 was examined by month, as well as by each implementation period overall.

APPOINTMENTS IN GENERAL PRACTICE

To understand the number of DNAs per month in The Groves Medical Centre, the *Appointments in General Practice* dataset by NHS Digital (2024a) was analysed. Data from October 2023 to February 2024 were examined by month.

Rapid Health data

Medical and admin request data from Rapid Health was analysed, including data from 30th October 2023 to 29th February 2024. After data cleansing, there were 3,060 rows, where one row was equal to one request via Rapid Health's Smart Triage. This data was analysed by month and overall. This dataset examined metrics such as the time requests were submitted via Rapid Health's Smart Triage, the number of requests via Rapid Health's Smart Triage that were sent to the Rapid Health inbox, and the number of patients with a registered disability who completed requests via Rapid Health's Smart Triage.

The Groves Medical Centre data

APPOINTMENT SLOT DATA

Appointment slot data from The Groves Medical Centre was analysed, including data from 29th June 2023 to 29th February 2024. This data was linked with Rapid Health data, where this dataset examines all the appointment slots that occurred at The Groves Medical Centre. After data cleansing, there were 12,204 rows in the pre-implementation period and 3,060 rows in the post-implementation period that were requested via Rapid Health's Smart Triage, where one row was equal to one appointment slot that occurred at The Groves Medical Centre, requested via Rapid Health's Smart Triage. This data was analysed by month and by each implementation period where relevant. Metrics examined included the number of appointment slots that took place, the number of pre-booked versus on the day appointment slots (please see for how pre-booked and on the day appointment slots are defined), and the number of appointment slots per staff role.

111 CALLS

To understand the proportion of 111 calls at The Groves Medical Centre, 111 data from 1st November 2020 to 29th February 2024 was provided by the practice. Historic pre-

implementation averages were used to adjust for the potential seasonal impact between November and February.

This data examined the rate of 111 calls to registered patients at The Groves Medical Centre in the pre- and post-implementation periods.

TELEPHONE CALLS DATA

Telephone call data was provided by The Groves Medical Centre for each day between 30th October 2022 and 29th February 2024. Within this, the total number of calls, average call duration, total call duration, and the maximum number of active calls at one time was provided for each day. This data was analysed by month and each implementation period overall.

This dataset examined the total number of telephone calls, the maximum number of telephone calls at one time, and the average call duration by month and within the pre- and post-implementation periods overall.

For the pre- and post-implementation periods respectively, the aggregated number of inbound calls, answered calls, missed calls, and abandoned calls was provided. Charts from the monthly *Management Report* at The Groves Medical Centre were also provided, depicting the average proportion of answered, missed, and abandoned calls over time for each month. The data behind the charts could not be extracted, so the charts provided were analysed visually (Section 5.1). These sources examined the proportion of answered, missed, and abandoned calls at The Groves Medical Centre.

Analysis methods

Each dataset was cleaned and assessed to compare pre- and post-implementation trends of the metrics defined in the evaluation framework and plan report (for more information, please see 'Appendix B: Quantitative methodology').

Linking data

The Groves Medical Centre appointment slot data and Rapid Health data was linked using the pseudonymised patient ID, the appointment date, and the type of appointment. There were 3,060 rows that were linked.

Calculating rate

To understand rate within analysis, the following calculations were completed:

- Rate of 111 calls to registered patients at The Groves Medical Centre
- Rate of A&E attendances and admissions to registered patients at The Groves Medical Centre

- Rate of A&E attendances and admissions to registered patients in NHS England
- Rate of answered telephone calls to registered patients

Please see 'Appendix B: Quantitative methodology continued' for how rate was calculated.

Seasonal adjustment

To remove the effect of seasonal variation from time series 111 data, historical data was analysed to identify regular trends in data from October to February and compared against data from the post-implementation period (October 2023 to February 2024). This was to understand whether the trend was in-line with previous years or whether the trend could be due to other factors, such as the pathway change facilitated by Rapid Health's Smart Triage.

Statistical testing

Where relevant, statistical testing was used to compare pre- and post-implementation metrics. A summary of the statistical analyses used is presented in Table 3. For more information surrounding the types of statistical analysis, please see 'Appendix B: Quantitative methodology continued'.

Table 3: The statistical analyses conducted for each analysis component where applicable.

Dataset	Metric	Statistical analysis conducted
Patients registered at a GP practice	The number of registered patients	Statistical process control (SPC) chart
The Groves Medical Centre data: Appointment request and booking	The number of appointments	SPC chart
	The proportion of patients requiring phone, face-to-face, and visit appointments	Chi-square test
	The proportion of pre-bookable versus on the day appointments	Chi-square test
	The proportion of appointments by staff role	Chi-square test
	The rate of did not attend (DNA) appointments	Comparison of rates test
		SPC chart

The Groves Medical Centre data: 111 calls	The rate of 111 calls to registered patients	Seasonal adjustment
The Groves Medical Centre data: Telephone calls	The rate of answered phone calls to registered patients	Comparison of rates test

2.7. Qualitative analysis

The qualitative analysis included existing and bespoke surveys to understand patient and staff perspectives of the impact of Rapid Health's Smart Triage at The Groves Medical Centre. The sources and methods of data collection are detailed in the following subsections.

Staff pre- and post-implementation surveys

Two staff surveys were completed: one surrounding the staff experience in the pre-implementation period and one surrounding the staff experience in the post-implementation period. The pre- and post-implementation surveys used a mixed methods approach, combining closed-ended and open-ended questions. Closed-ended questions measured staff attitudes related to Rapid Health's Smart Triage, using Likert scales and multiple-choice formats. Open-ended questions elicited staff opinions, experiences, challenges, and suggestions for improvement, using free-text formats.

The pre-implementation survey was distributed between 31st October 2023 and 7th December 2023, whilst the post-implementation survey was distributed between 15th February 2024 and 20th March 2024. There were 15 responses to the pre-implementation survey and 23 responses to the post-implementation survey.

Staff surveys were analysed using frequency distributions, as well as thematic and sentiment analyses, to identify patterns and themes in the data. The proportion of staff roles was similar across both surveys, except for the GP trainees, where there was a greater proportion in the post-implementation survey (Figure 4).

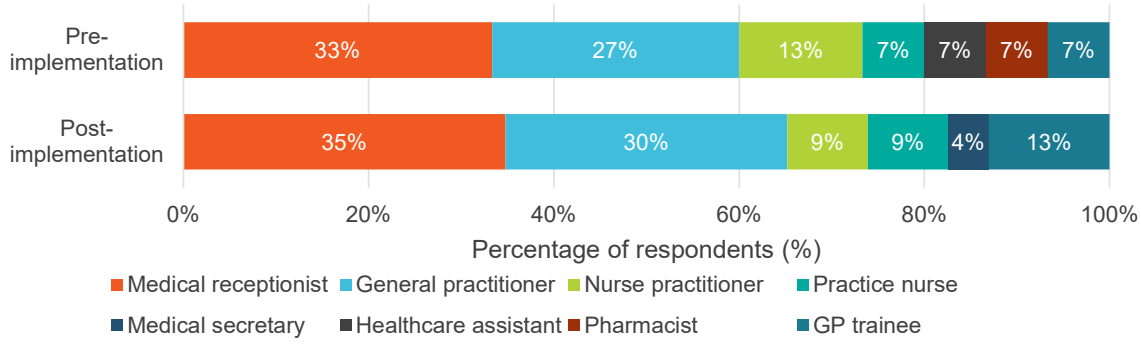

Figure 4: The breakdown of staff roles of those who completed the pre-implementation (*N* = 15) and post-implementation (*N* = 23) surveys.

Most staff in the pre-implementation survey had been working at The Groves Medical Centre for either less than two years (40%; *n* = 6) or two to five years (40%; *n* = 6; Figure 5). Further, 65% staff in the post-implementation survey had been working at The Groves Medical Centre for either less than two years (35%; *n* = 8) or two to five years (30%; *n* = 7).

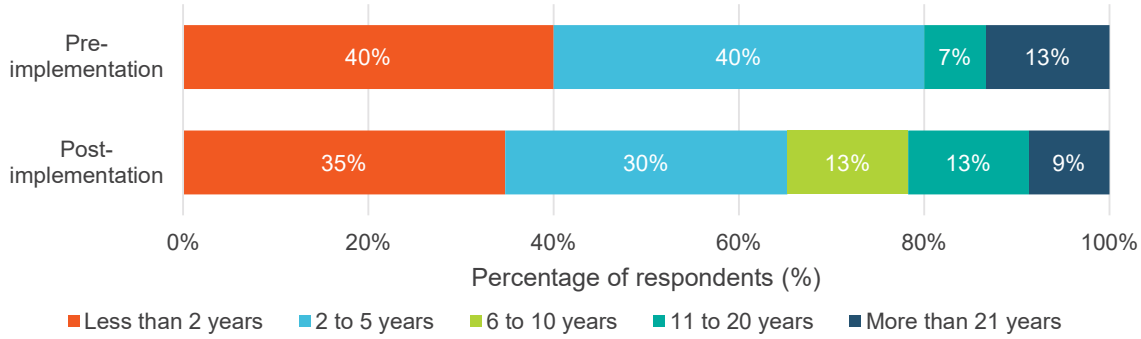

Figure 5: Staff survey responses to the question '*how long have you been working at The Groves Medical Centre?*' in the pre-implementation (*N* = 15) and post-implementation (*N* = 23) periods.

Staff were asked what tasks they were involved in within the previous patient appointment pathway as part of their role. Here, 28% (*n* = 8) of respondents were not involved in the previous patient appointment pathway (Figure 6). Of the remaining staff, 21% (*n* = 6) booked patient appointments, 17% (*n* = 5) rescheduled patient appointments, and 14% (*n* = 4) allocated patient appointment slots.

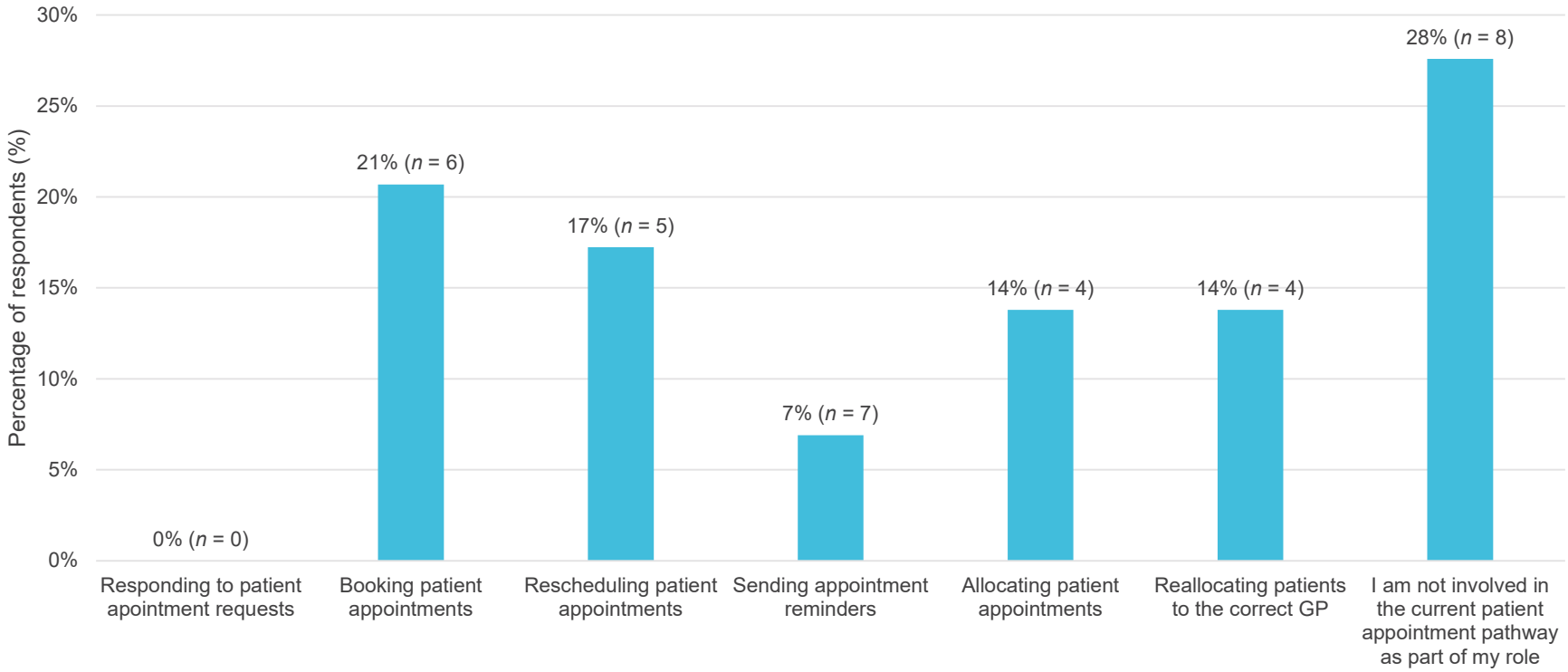

Figure 6: Staff pre-implementation survey responses to the question *'are you involved in the current patient appointment pathway as part of your role? If you are, what tasks do you need to complete?'*.

After Rapid Health's Smart Triage was implemented, the proportion of staff who were not involved with the current patient appointment pathway decreased to 12% (*n* = 7; Figure 7). This could be due to the addition of the option '*providing care to patients*', which was not in the pre-implementation survey. Overall, establishing a strict comparison was not possible as the categories of tasks were modified to

reflect the Rapid Health's Smart Triage related tasks, however the results do highlight the range in tasks completed by staff members. Here, an even distribution in the tasks staff carried out was demonstrated.

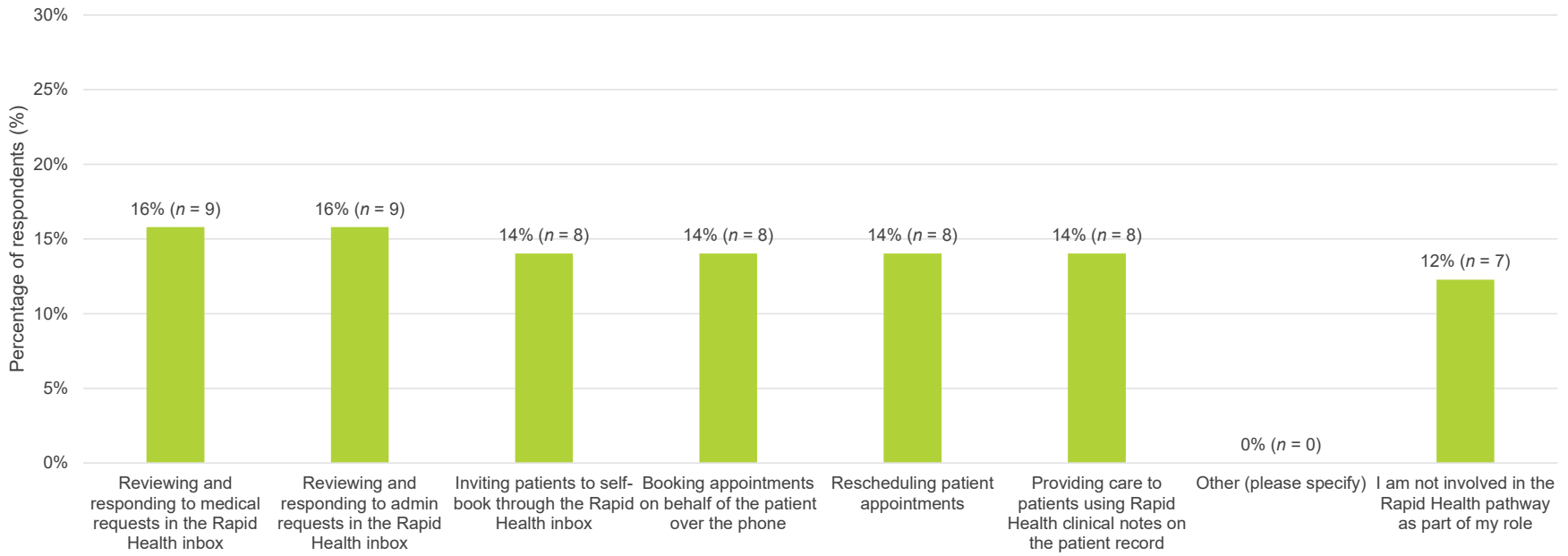

Figure 7: Staff post-implementation survey responses to the question '*are you involved in the current patient appointment pathway as part of your role? If you are, what tasks do you need to complete?*'.

Patient survey

Friends and Family survey

Data from the *Friends and Family test* survey (NHS, 2018), collected by The Groves Medical Centre was used to understand the overall patient experience related to their GP practice. Survey data from the pre- and post-implementation periods were analysed, with any data outside of these periods excluded. Further, survey entries that did not contain any reference to appointment booking were removed in an effort to focus on appointment booking experiences. Responses in the pre-implementation period that mentioned Rapid Health's Smart Triage were also removed from the analyses.

Multiple choice questions were analysed through frequency distributions. Free-text questions were analysed through thematic analysis to generate themes, as well as content analysis. Overall, 1,525 patients responded to the survey in the pre-implementation period and 2,416 patients responded to the Friends and Family survey in the post-implementation period. Data points were removed to only include free-text responses related to appointment booking experiences. This lowered the number of responses to 180 patients in the pre-implementation period and 420 patients in the post-implementation period.

Post-implementation patient survey

A post-implementation patient survey was created by Unity Insights and distributed by The Groves Medical Centre between 25th March 2024 and 30th June 2024 to understand the patient experience of using Rapid Health's Smart Triage. Patients were invited to complete either a paper survey, provided at The Groves Medical Centre, or an online survey. The online survey was sent to patients via text message, but patients could also scan a QR code in the practice's waiting room to complete the survey.

Multiple choice and Likert scale survey questions were analysed through frequency distributions, whilst free-text responses were analysed through thematic, sentiment, and content analysis to generate themes based on the responses. There were 20 responses to the survey out of the 5,225 patients who received an appointment slot at The Groves Medical Centre in the post-implementation period, highlighting a low response rate despite efforts to encourage participation through various methods.

Most survey respondents were female (65%; n = 13), with 25% (n = 5) of respondents being male and 10% (n = 2) preferring not to state their gender. Compared to the wider population of patients at The Groves Medical Centre, where 51% (n = 14,919) were female and 49% (n = 14,091) were male, there was a greater proportion of female survey respondents (72%; n = 13).

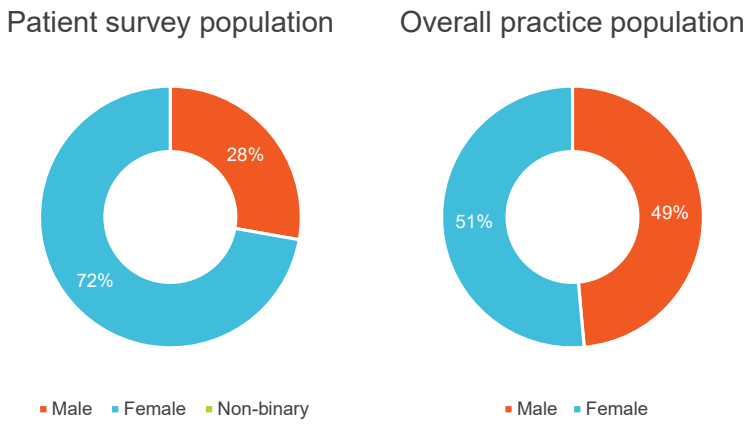

Figure 8: The proportion of male, female, and non-binary patients who responded to the patient survey (*n* = 18) and the proportion of male and female patients at The Groves Medical Centre overall (*N* = 29,010).

There was variation in the age of survey respondents, with the youngest survey respondent being between 19 and 29 years old and the oldest survey respondent being 80 years old or over (Figure 9). Further, 61% (*n* = 11) of survey respondents were between 40 and 69 years old. Compared to the wider cohort of patients at The Groves Medical Centre, there was a greater proportion of 50 to 59 year olds (22%; *n* = 4) and 60 to 69 year olds (28%; *n* = 5) completing the survey. Further, there were fewer responses from 19 to 29 year olds in the survey (6%; *n* = 1), compared to the wider population (16%; *n* = 4,611).

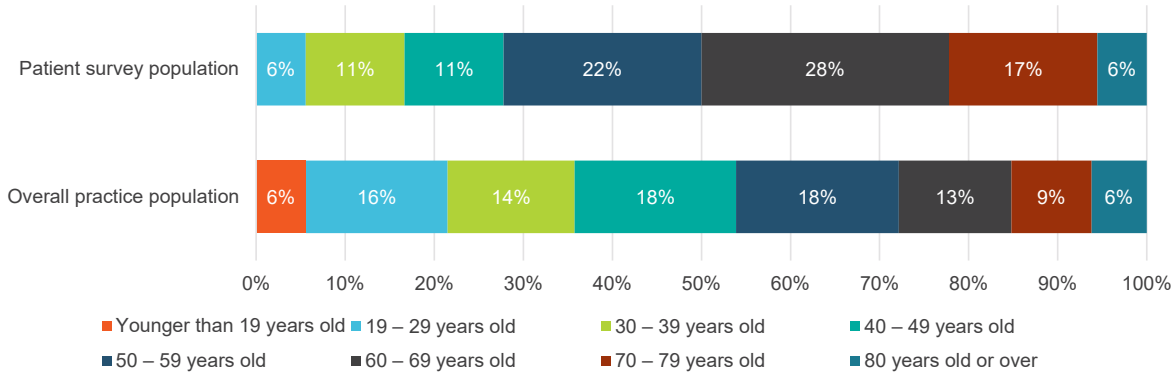

Figure 9: The proportion of patients by age group in the patient survey population (*N* = 20) and overall population at The Groves Medical Centre (*N* = 29,010).

As there were differences between age groups when comparing the survey respondent demographics to the wider practice population, it could be suggested that findings may vary should all patients registered at The Groves Medical Centre be surveyed. Obtaining responses from all patients, however, would not be feasible.

Over half (72%; *n* = 13) of responses were from patients over 50 years old. Gaining insights from a greater proportion of older adults, who stereotypically may not be able to navigate technology as efficiently as younger adults, allowed for more insightful conclusions regarding the functionality of Rapid Health's Smart Triage within the patient survey.

In terms of ethnicity, over half of patients surveyed were White (58%; *n* = 11), with 21% (*n* = 4) being Asian or Asian British (Figure 10). Further, 21% (*n* = 4) chose not to state their ethnicity. This was generally similar to the population of patients at The Groves Medical Centre, where 61% were White, and 24% were Asian or Asian British (Office for Health Improvement and Disparities, 2024).

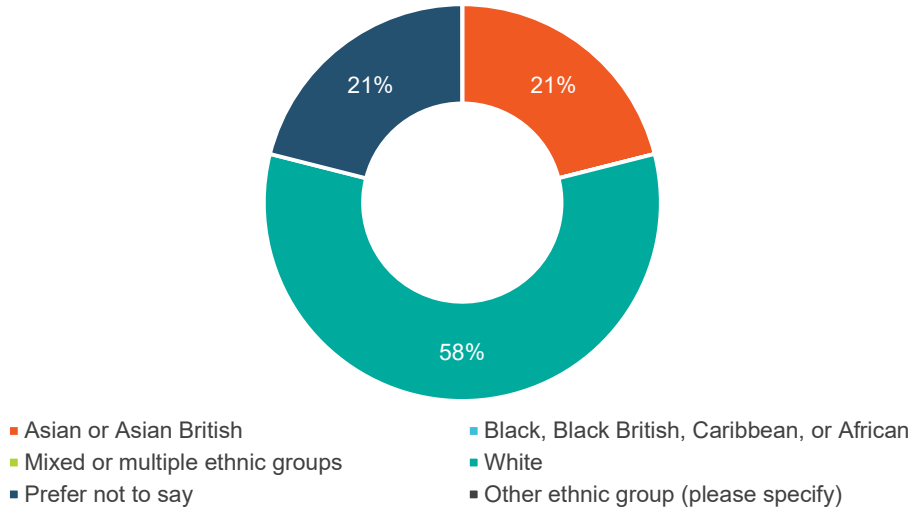

Figure 10: The proportion of patients by ethnicity in the patient survey population (*n* = 19).

Most patients surveyed had been a patient at The Groves Medical Centre for more than five years (85%; *n* = 17; Figure 11).

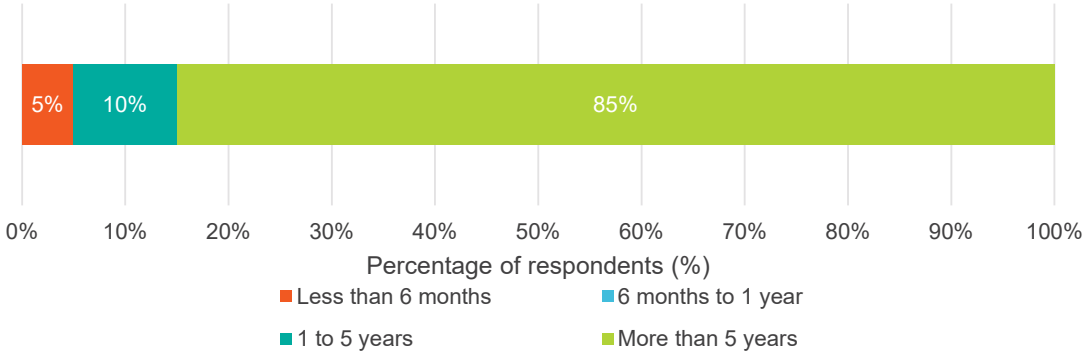

Figure 11: Patient survey responses surrounding length of time being a registered patient at The Groves Medical Centre (*N* = 20).

Most patients felt either extremely or very capable in navigating digital technologies, using online tools, and understanding digital information (70%; *n* = 14; Figure 12). Further, 20% (*n* = 4) of patients did not feel capable at all in navigating digital technologies. Approximately 22% of UK adults lack the foundational level of digital skills in 2021 (Ipsos, 2021), meaning this proportion are likely unable to complete digital tasks by themselves. This could suggest that the patient survey respondents are broadly representative of the level of digital literacy found in the UK population.

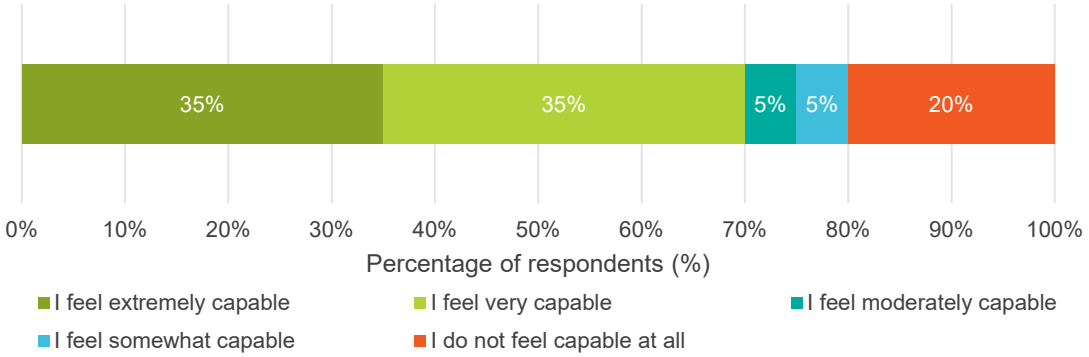

Figure 12: Patient survey respondent answers regarding capability to navigate digital technologies using online tools and understanding digital information (*N* = 20).

There was variation in how often surveyed patients required digital assistance to use digital technologies and online tools (Figure 13). Overall, 25% (*n* = 5) of surveyed patients never required assistance to use digital technologies and online tools and 60% (*n* = 12) of patients needed digital assistance either rarely, occasionally, or frequently. Finally, 15% (*n* = 3) of patients always needed digital assistance, which was slightly lower compared to the wider UK population (15% versus 22%; Ipsos, 2021).

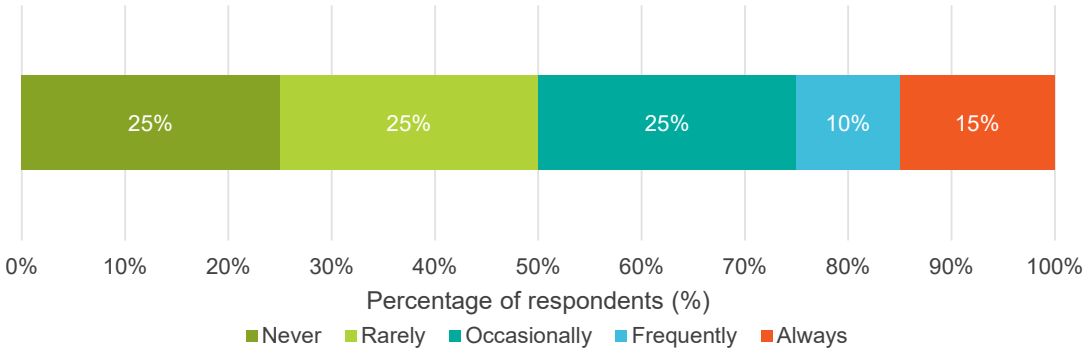

Figure 13: Patient survey respondent answers regarding how often patients required assistance to use digital technologies and online tools (*N* = 20).

3. Quantitative findings

This section depicts the key quantitative insights. For more information, please see 'Appendix C: Quantitative insights continued'.

3.1. Registered patients

On average, there were 17,557 patients at The Groves Medical Centre between June 2023 and October 2023 and 17,647 patients between October 2023 and February 2024. This suggests an overall increase, however, the overall number of patients registered at a GP practice is increasing throughout England (British Medical Association, 2024a). Despite this, there was a decrease in the number of patients in February 2024. To understand whether this was a random variation or whether this decrease was statistically significant, an SPC chart was created. Here, it was identified that no statistically significant difference was identified throughout the data points, suggesting that this difference was due to chance (please see 'Appendix C: Quantitative insights continued' for more information).

3.2. Requests via Rapid Health's Smart Triage

Requesting care via Rapid Health's Smart Triage

Overall, there were 9,186 requests made via Rapid Health's Smart Triage to The Groves Medical Centre. Of this, 83% (*n* = 7,637) were medical requests and 17% (*n* = 1,549) were admin requests. Most requests via Rapid Health's Smart Triage were completed by patients (78%; *n* = 7,143), rather than a care navigator (22%; *n* = 2,042) or a clinician (0%; *n* = 1). This means that most requests via Rapid Health's Smart Triage were completed online independently, rather than online with assistance (by telephone or in person; 22%; *n* = 2,042).

Of the requests via Rapid Health's Smart Triage made by patients, 2% (*n* = 176) of requests were made from patients with a registered disability. Further, Figure 14 depicts a breakdown of patients requesting care via Rapid Health's Smart Triage by age. Here, the age and registered disability breakdown was similar to that of the overall demographics of the registered patient population at The Groves Medical Centre (Section 2.5).

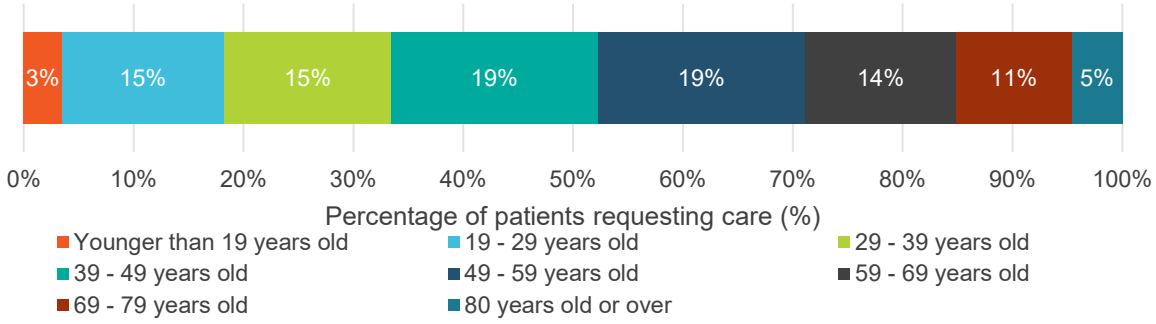

Figure 14: The proportion of requests via Rapid Health's Smart Triage that were completed by patient age group.

Requests via Rapid Health's Smart Triage were submitted at all times of day. Most requests were completed in practice hours (71%; *n* = 6,492), with the remaining 29% (*n* = 2,694) being completed out of practice hours. The majority of requests were submitted at 8am in all months, however this number decreased by 16% (from 18% in November 2023 to 16% in February 2024) on average as the months progressed (Figure 15), showing a more even distribution of demand.

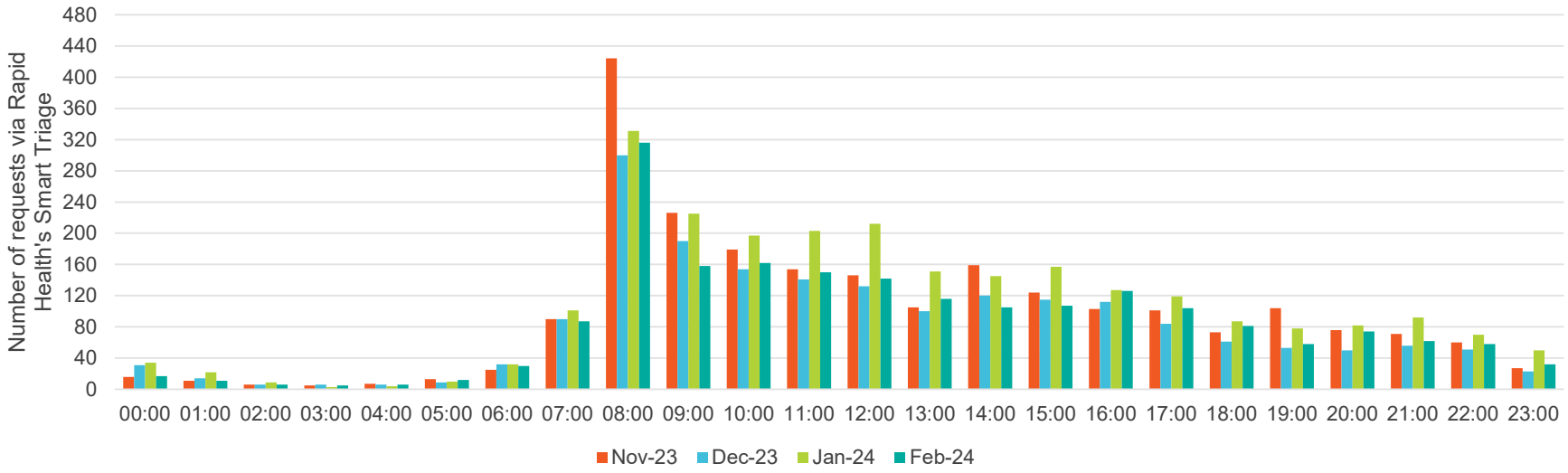

Figure 15: The number of requests via Rapid Health's Smart Triage completed at each time of day the months following Rapid Health's Smart Triage implementation.

Figure 16 highlights that 91% of care requests via Rapid Health's Smart Triage (*n* = 8,377) resulted in an appointment slot being allocated to the patient instantly. Of the remainder, only 2% (*n* = 191) of requests received an appointment slot after more than five hours. It is likely that these data points were made outside of practice hours where a care navigator was unable to tend to the request immediately. Finally, most admin and medical requests were dealt with automatically, where 95% (*n* = 1,472) of admin requests and 90% (*n* = 6,905) of medical requests were handled instantly.

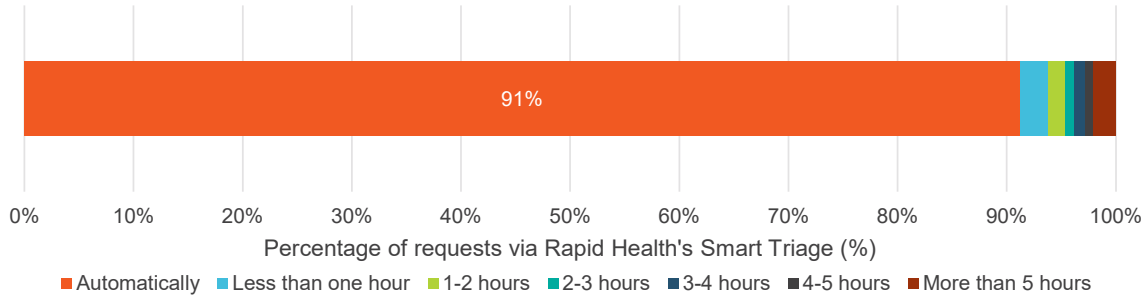

Figure 16: A bar chart depicting the time taken from completing the request form to receiving an appointment slot.

Of the remaining 9% (*n* = 809) of requests, 17% (*n* = 192; median = 187) were sent to the Rapid Health inbox on average per month (Figure 17). Over time, the proportion of requests decreased from November to December, then began to increase until February. It should be noted that this was due to the configuration of Rapid Health's Smart Triage at The Groves Medical Centre; 100% of requests via Rapid Health's Smart Triage could be triaged automatically if required.

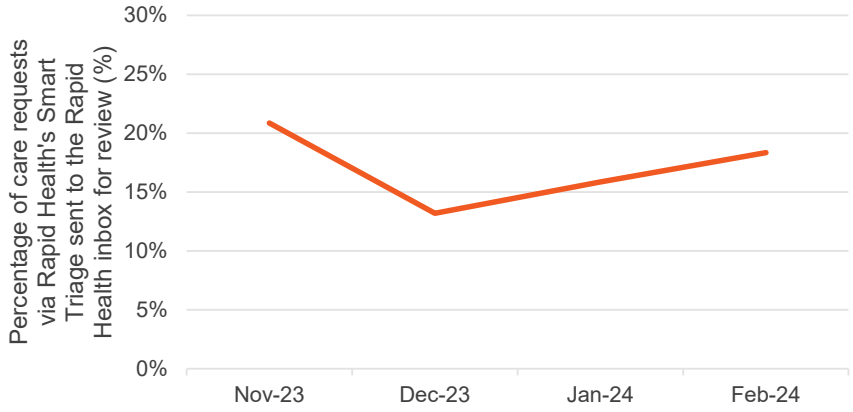

Figure 17: The proportion of requests via Rapid Health's Smart Triage that were sent to the Rapid Health inbox, of the proportion of requests via Rapid Health's Smart Triage that were not sent automatically.

Most requests via Rapid Health's Smart Triage received a pre-bookable appointment slot (93%; *n* = 8,555), rather than an on the day appointment slot (7%; *n* = 631; Figure 18). Please see Section 2.4 for a definition of pre-bookable and on the day appointment slots.

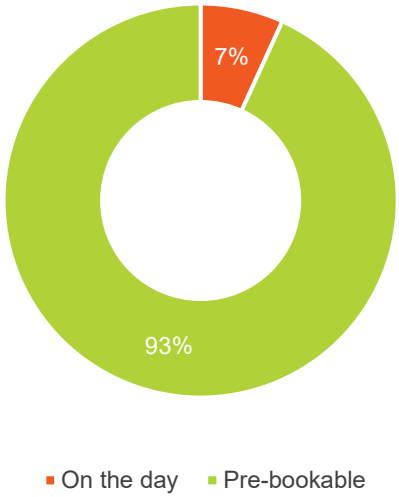

Figure 18: The proportion of requests via Rapid Health's Smart Triage that received a pre-bookable or an on the day appointment slot.

The length of time taken from requesting to the time of the appointment slot was provided in days. On average, patients received an appointment slot within four days of requesting care via Rapid Health's Smart Triage (median = 3 days). Patients requiring an on the day appointment received an appointment slot within 0 days on average (median = 3 days), meaning that all requests triaged as needing action on the same day were actioned on the same day. Patients requiring a pre-bookable appointment received an appointment slot within five days (median = 3 days).

On average, patients were provided with 61 appointment slots to choose from when requesting care via Rapid Health's Smart Triage (Figure 19). There was a peak at 3am on Tuesdays. Here, there was a total of six requests over the evaluation period at this day and time, where all of these patients were triaged as non-urgent, so would have got the maximum available appointment availability offered. As The Groves Medical Centre offers open slots with no embargoes (appointments reserved for patients who must see a doctor on the day and are not available for pre-booking online), these patients would have seen all availability over three months, on average, hence the much larger figure at this time and day.

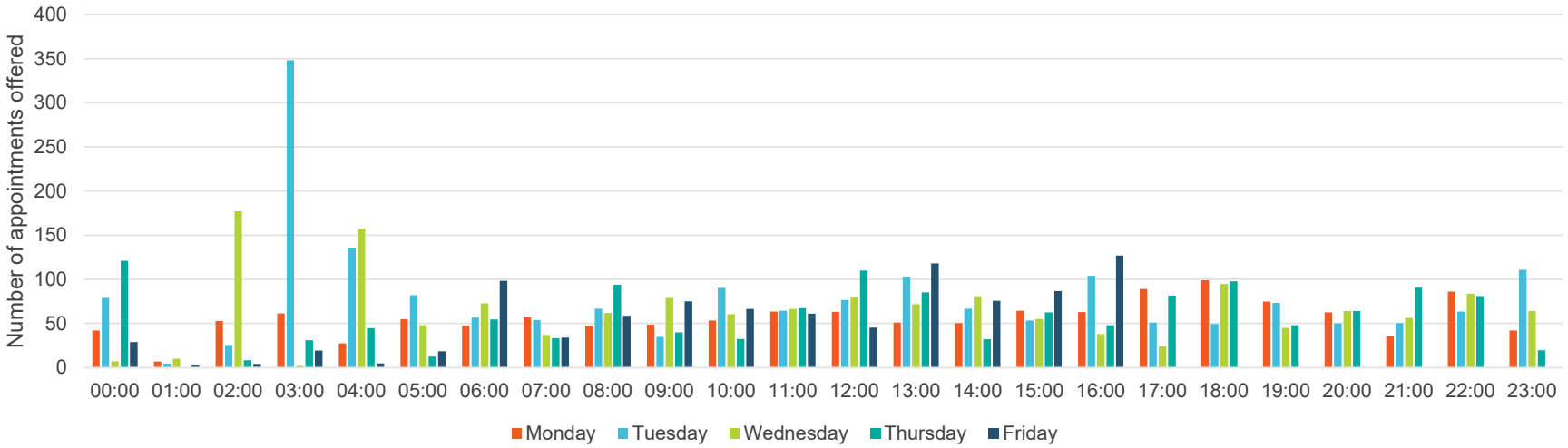

Figure 19: The number of appointments offered to patients by weekday. Weekend data was not included as no appointments were able to be offered on these days for on the day appointments, so were sent to the Rapid Health inbox.

Urgency of care

Smart Triage identifies the urgency of the patient, allocating the patient request a colour, which indicates that a patient must be seen within a certain timeframe:

- Green: Up to 60 calendar days
- Yellow: Up to five calendar days
- Amber: By the end of tomorrow (by 11:59pm tomorrow)
- Red: On the day only (by 11:59pm today)
- Black: Patient is signposted to A&E, and asked to confirm that they will attend

Figure 20 depicts the breakdown of urgency levels within patients requesting care via Rapid Health's Smart Triage.

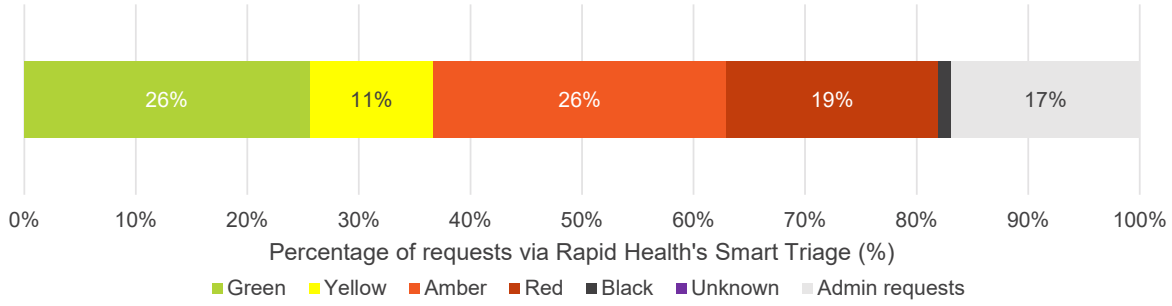

Figure 20: The proportion of patients in each urgency category who requested care via Rapid Health's Smart Triage. Here, '*admin requests*' and '*unknown*' were not medical requests so were not assessed via urgency, whereas the other categories were medical requests so were assessed via urgency.

Overall, 19% (*n* = 1,747) of requests via Rapid Health's Smart Triage were categorised as '*red*' and 26% (*n* = 2,411) of requests were categorised as '*amber*'. Patients requiring urgent care (triaged as red) received an appointment slot in 54 minutes on average following Rapid Health's Smart Triage. Here, 78% (*n* = 833) of *'amber'* requests were able to be held by the next day of requesting care. Further, 68% (*n* = 230) of '*red'* requests were able to be held on the same day as care was requested, increasing to 75% (*n* = 255) by the next day (Figure 21). Please note that all '*red'* patients seen the next day would have been contacted by the practice to ensure they were happy to be offered an appointment at a later date. The remaining proportions that were unable to be held the same day or one day after requesting care. This could be the case when a request is completed on the weekend.

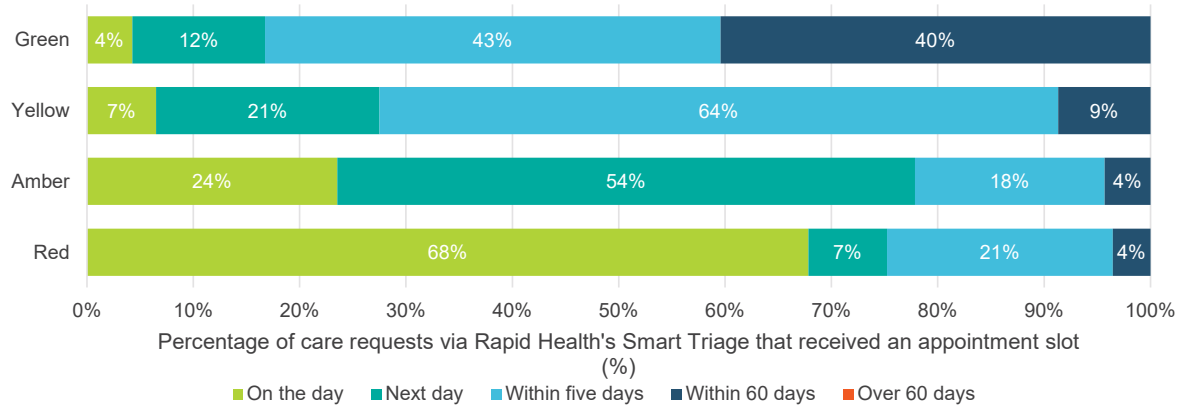

Figure 21: A bar chart depicting the time taken from requesting care to the appointment slot by level of urgency. Please note that this does not include '*black*' urgency as this resulted in an A&E appointment. Further, '*unknown*' and '-' urgencies were removed as these were not medical requests.

Of the 18% of patients requesting care via Rapid Health's Smart Triage who were told to go to A&E, 94% (*n* = 303) of patients on average each month booked an appointment at The Groves Medical Centre as this was more appropriate following further assessment by the system (Figure 22).

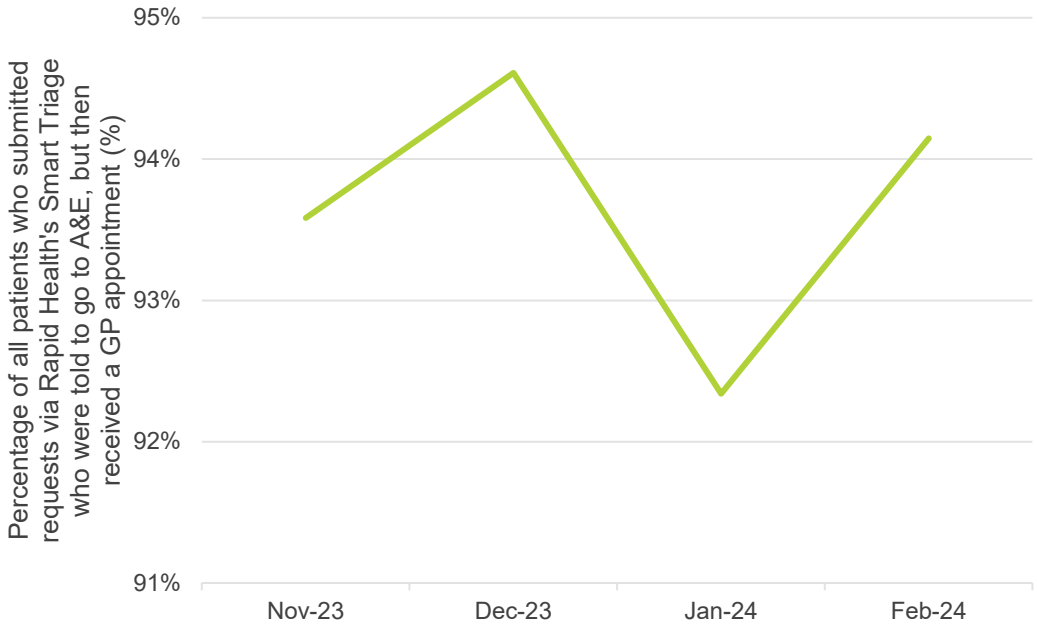

Figure 22: The rate of patients who submitted requests via Rapid Health's Smart Triage who were told to go to A&E, but then booked an appointment at The Groves Medical Centre as this was more appropriate following further investigation to registered patients at The Groves Medical Centre during the post-implementation period.

Further, 6% (*n* = 25) of all patients who were initially told to go to A&E reported that they intended to attend A&E. The rate of patients who went to A&E due to Rapid Health's Smart Triage of the total proportion of registered patients at The Groves Medical Centre is highlighted in Figure 23, where an average of 0.12% (*n* = 25) were triaged to and reported that they would attend A&E.

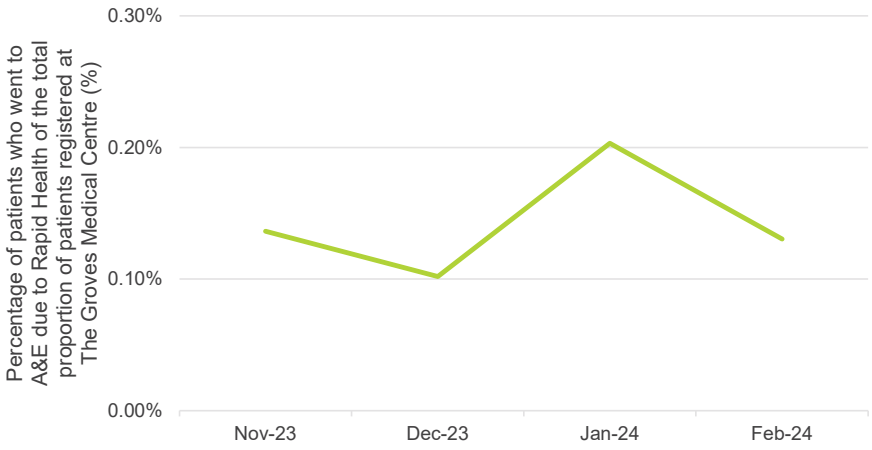

Figure 23: The rate of patients who submitted requests via Rapid Health's Smart Triage who said they would go to A&E to registered patients at The Groves Medical Centre during the post-implementation period.

The rate of A&E visits to registered patients across England each month was analysed and uncovered that the projected rate of A&E visits due to Rapid Health's Smart Triage was almost six times lower than the national average of 0.67% (*n* = 422,264; Figure 24).

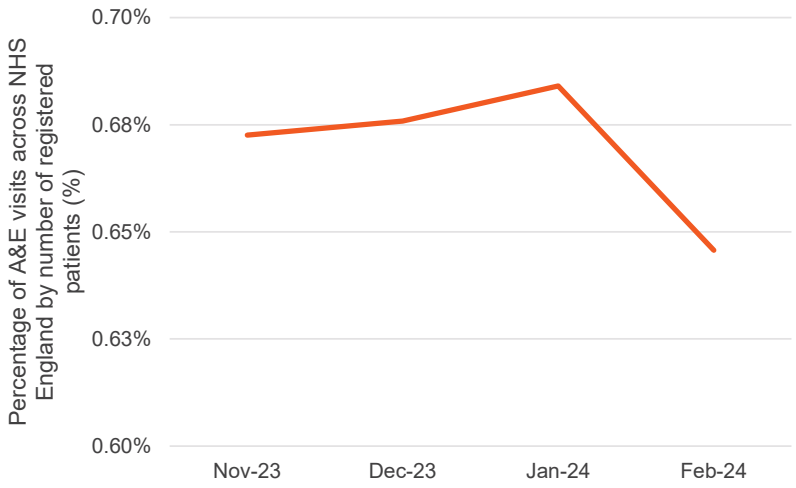

Figure 24: The rate of A&E visits to registered patients at NHS England during the post-implementation period.

3.3. Booked appointment slots

Appointment slots

Overall, there were 335 appointments held per day in the pre-implementation period and 330 appointments held per day in the post-implementation period before cleaning (Figure 25). This represents all of the appointments held at The Groves Medical Centre, regardless of whether they were likely to be requested via Rapid Health's Smart Triage. After cleaning, there were 142 appointments held per day in the pre-implementation period and 126 appointments held per day in the post-implementation period.

fewer appointment slots per day on average in the post-implementation period compared to the pre-implementation period (all appointments held, managed via Rapid Health's Smart Triage and the practice)

Figure 25: The difference between the average number of appointment slots per day in the pre- and post-implementation periods.

There was a greater proportion of pre-booked appointment slots in the post-implementation period, compared to the pre-implementation period (85% compared to 48%; Figure 26). A chi-square statistical test was completed to determine whether there was a statistically significant difference between the proportion of pre-booked and on the day appointments in the pre- and post-implementation periods. Here, a statistically significant difference was identified ($\chi^2(1, N = 15{,}264) = 0.00$, $p < 0.001$). This means that there was a statistically significant increase in the proportion of pre-bookable appointments and a statistically significant decrease in the proportion of on the day appointments booked in the post-implementation period, compared to the pre-implementation period.

48%

of appointment slots were pre-booked before Rapid Health's Smart Triage implementation

85%

of appointment slots requested via Rapid Health's Smart Triage were pre-booked

Figure 26: The proportion of appointment slots that were pre-booked in the pre- and post-implementation period.

The time taken from requesting care to attending an appointment slot at The Groves Medical Centre was examined. It took 13 days on average to attend an appointment slot for pre-bookable appointment slots in the pre-implementation period (with a median of 11 days) and

4 days in the post-implementation period (with a median of 3 days; Figure 27)[1]. Further, it took 3.0 hours on average to attend an appointment slot for on the day appointment slots in the pre-implementation period (with a median of 2.0 hours) and 4.6 hours in the post-implementation period (with a median of 4.9 hours). Here, it should be noted that the mean is different from the interquartile range (IQR). This is because the mean is the average of all data points, while the IQR, or median, measures the spread of the middle 50% of the data by subtracting the first quartile from the third quartile.

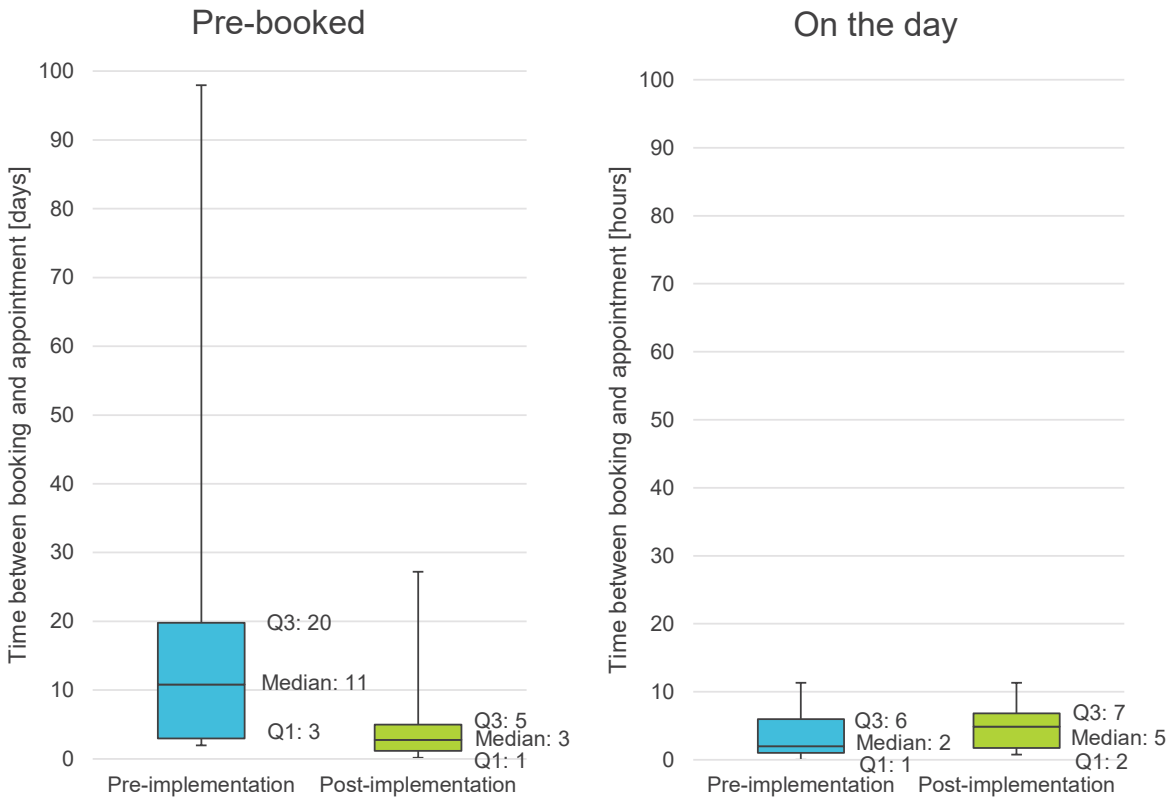

Figure 27: Box plots highlighting the time taken from requesting care to attending an appointment slot at The Groves Medical Centre for on the day (IQR pre-implementation: 2 hours; IQR post-implementation: 5 hours) and pre-booked (IQR pre-implementation: 11 days; IQR post-implementation: 3 days) appointments.

Patients could select their own preferred appointment slot via Rapid Health's Smart Triage. Of those who selected their preferred appointment slot, those with pre-bookable appointments chose an appointment slot 4.4 days in advance and those with on the day appointments chose an appointment slot 5.1 hours in advance. Overall, patients selected appointments that were 3.8 days in advance, even when offered a choice between same

[1] It should be noted that there is a difference in the number of days taken to receive an appointment slot for pre-booked slots in the post-implementation period by one day. This is because The Groves Medical Centre and Rapid Health had slightly different times of when the care request was sent within the data. Further, Rapid Health data also provided the days taken from requesting care to the booked appointment in integers.

day and advance appointments. This means that, when patients are provided with a choice of appointments, they tend to choose appointments that are later rather than earlier for on the day appointments.

Most attended appointment slots were requested by a patient autonomously via Rapid Health's Smart Triage in the post-implementation period (82%; *n* = 2,059; Figure 28). This is much higher compared to the pre-implementation period, where 12% (*n* = 1,424) of patients requested appointments themselves via the NHS app. Further, 85% (*n* = 10,411) of appointments held were booked by medical receptionists in the pre-implementation period. Only 18% (*n* = 551) of appointments held were booked by care navigators (medical receptionists) via Rapid Health's Smart Triage in the post-implementation period.

82% of appointments held that were booked via Rapid Health's Smart Triage were requested by patients

Figure 28: The proportion of appointment slots that were requested by a patient via Rapid Health's Smart Triage.

The proportion of patients requiring another appointment within two weeks of their first appointment before and after Rapid Health's Smart Triage implementation was examined. A smaller proportion of appointments held via Rapid Health's Smart Triage resulted in another appointment within two weeks compared to the pre-implementation period (Figure 29). It is not possible to ascertain the reason for this, therefore these proportions could be driven by appropriate clinical management and should not be seen as unnecessary appointments.

Pre-implementation

23%

of appointments in the pre-implementation period occurred within two weeks of another appointment

Post-implementation

7%

of appointments booked through Rapid Health's Smart Triage occurred within two weeks of another appointment

Figure 29: The proportion of patients requiring another appointment within two weeks of their first appointment in the pre- and post-implementation periods.

Consultation time (proxy measure)

In the pre-implementation period, consultations lasted 18 minutes on average (with a median of 16 minutes, including both before and after the move to 15-minute appointments). In the post-implementation period, consultations also lasted 18 minutes on average (with a median of 16 minutes). Figure 30 depicts the average consultation time before and after the move to 15-minute appointments on 4th September 2023, alongside during the pre- and post-implementation periods. This indicates that the average consultation time increased slightly following this move, however appointments were already approximately 15 minutes long.

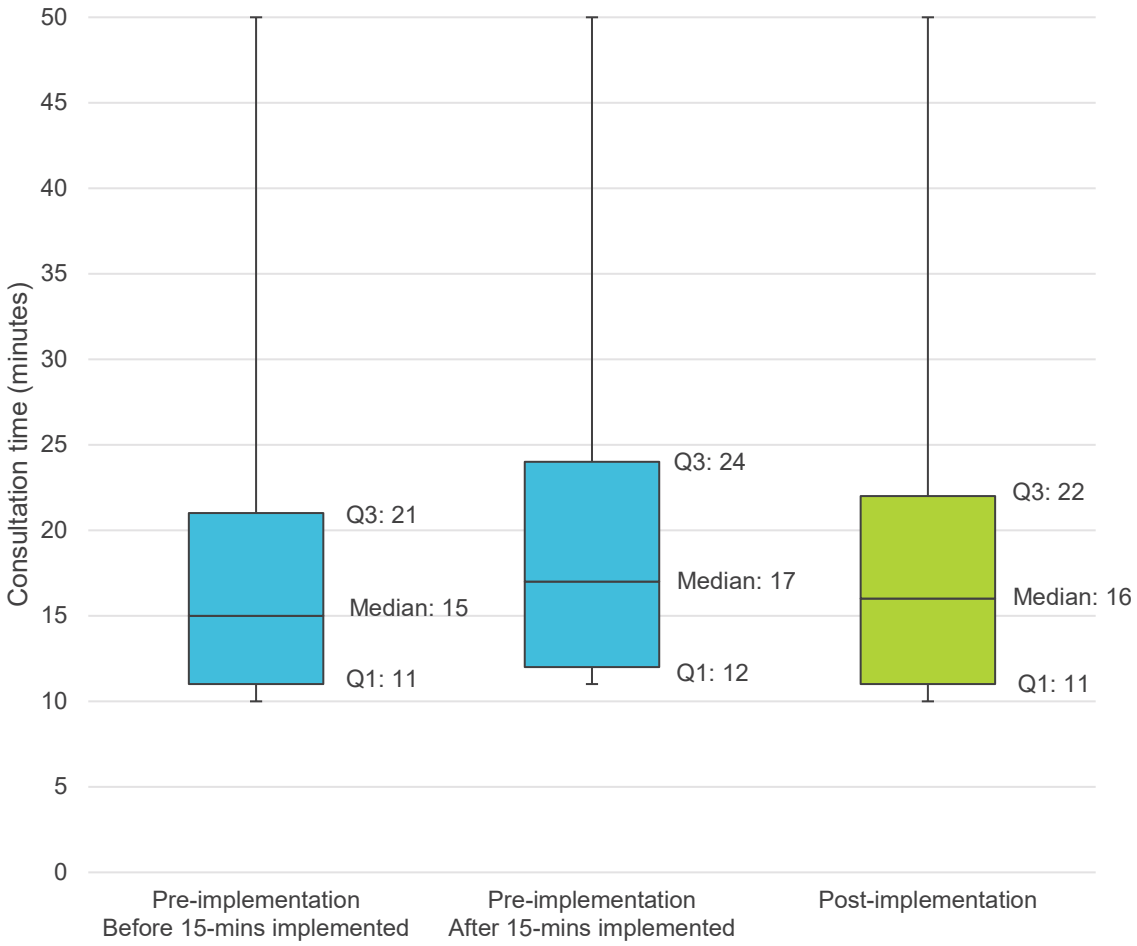

Figure 30: The average consultation time before (IQR pre-implementation: 10 minutes) and after (IQR pre-implementation: 12 minutes; IQR post-implementation: 11 minutes) the move to 15-minute appointments.

Most consultations that were requested via Rapid Health's Smart Triage were held face-to-face (82%; *n* = 2,495), which is greater than the proportion in the pre-implementation period (53%; *n* = 6,519). A chi-square statistical test was completed to determine whether there was a statistically significant difference between the proportion of face to face and telephone

appointments in the pre- and post-implementation periods. Here, a statistically significant difference was identified ($\chi^2(1, N = 25{,}797) = 0.00$, $p < 0.001$). This suggests that the proportion of face-to-face appointments significantly increased in the post-implementation period and the proportion of telephone appointments significantly decreased in the post-implementation period.

Of the appointments held that were requested via Rapid Health's Smart Triage, there was a slightly greater distribution in variation across different staff types (Figure 31). Further, there was a slightly greater proportion of GP appointments held that were requested via Rapid Health's Smart Triage (12% versus 8%). Despite this, the total number of GP appointments was lower in the post-implementation period overall (pre-implementation: 947; post-implementation: 381).

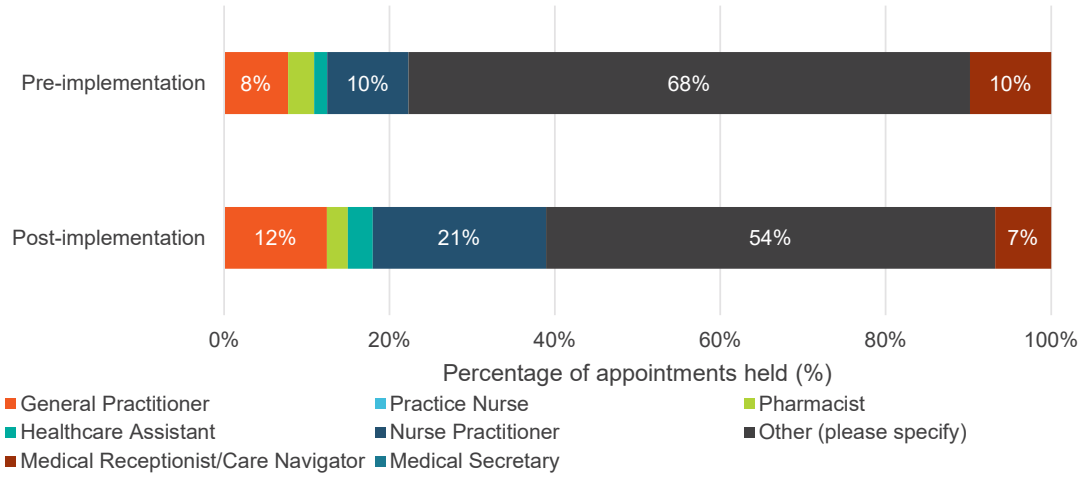

Figure 31: The proportion of appointments held by each staff role in the pre- and post-implementation periods. Please note that '*other*' staff roles included dieticians, medical students, paramedic specialist practitioners, physician assistants, physiotherapists, community mental health nurses, and community practitioners.

A chi-square statistical test was performed to understand whether there was a statistically significant difference between the proportion of appointments by staff role in the pre- and post-implementation periods. The test revealed a statistically significant difference ($\chi^2(1, N = 15{,}264) = 0.00$, $p < 0.001$). This suggests that the change in proportion of appointments held by staff role was statistically significantly different in the post-implementation period, compared to the pre-implementation period.

DNAs

There was a 2.7% decrease in the rate of DNAs following Rapid Health's Smart Triage implementation at The Groves Medical Centre from 3.7% (29th June 2023 to 29th October

2023) to 3.6% (30th October 2023 to 29th February 2023). A comparison of rates statistical test was performed on the two rates to determine whether the reduction was significant. When comparing the DNA rates before and after Rapid Health's Smart Triage implementation, the pre-implementation period had an incidence rate of 0.0390 (95% CI [0.0368, 0.0413]), whereas the post-implementation period had an incidence rate of 0.0356 (95% CI [0.0335, 0.0377]). The statistical analysis revealed a significant difference between the two groups ($p < 0.05$). This means that the change in the proportion of DNAs was statistically significantly different in the post-implementation period, compared to the pre-implementation period.

As variations in DNA rate are likely to be influenced by seasonality, the analysis also compared the average DNA rate from the year prior (October 2022 to February 2023) with the DNA rate from October 2023 to February 2024. In the winter of 2022 to 2023, there was a 10% decrease in DNA rates from 4.0% to 3.6% on average (Figure 32).

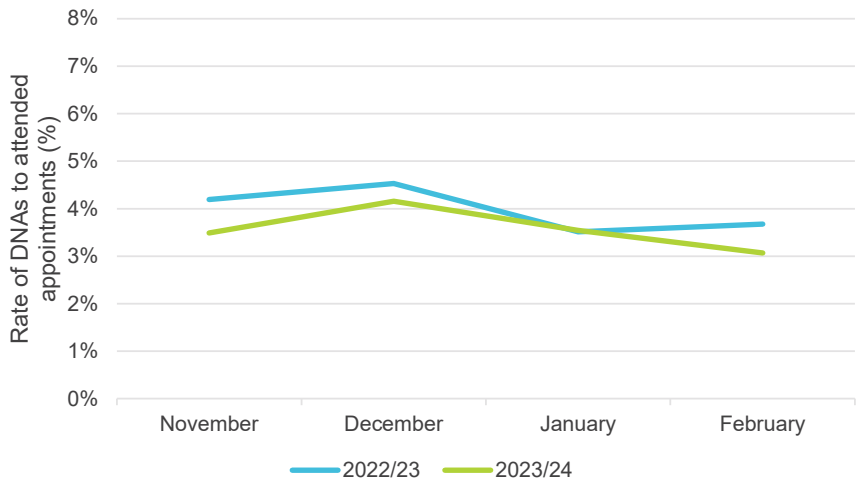

Figure 32: The rate of DNAs at The Groves Medical Centre, comparing historical pre-implementation data from 2022/23 with post-implementation data 2023/24 in the same months.

A comparison of rates statistical test was performed on the two rates to determine whether the DNA rate was significant. When comparing the DNA rates for 2022/23 with 2023/24 for the same months, the pre-implementation period had an incidence rate of 0.03947 (95% CI [0.04, 0.04]), whereas the post-implementation period had an incidence rate of 0.03557 (95% CI [0.03, 0.04]). The statistical analysis revealed a significant difference between the two groups ($p < 0.05$). This means that there was a significant decrease in the rate of DNAs year on year.

3.4. 111 calls

The average monthly rate of 111 calls to registered GP patients remained the same in the previous winters (2020/21 to 2022/23) and after Rapid Health's Smart Triage was implemented (2023/24) during the November to February period at 1.2%.

The monthly rate of 111 calls to registered patients gradually decreased for the period 2020/21 to 2022/23 (Figure 33). The average for each month was identified and plotted on the chart as the '*historic data 2021/22 to 2022/23*'. The seasonal adjustment line shows the historic data trend, starting at the same rate as the post-implementation line to understand the predicted trend for this period. After Rapid Health's Smart Triage implementation, there was a slight peak in December 2023, with a gradual decrease until February 2024.

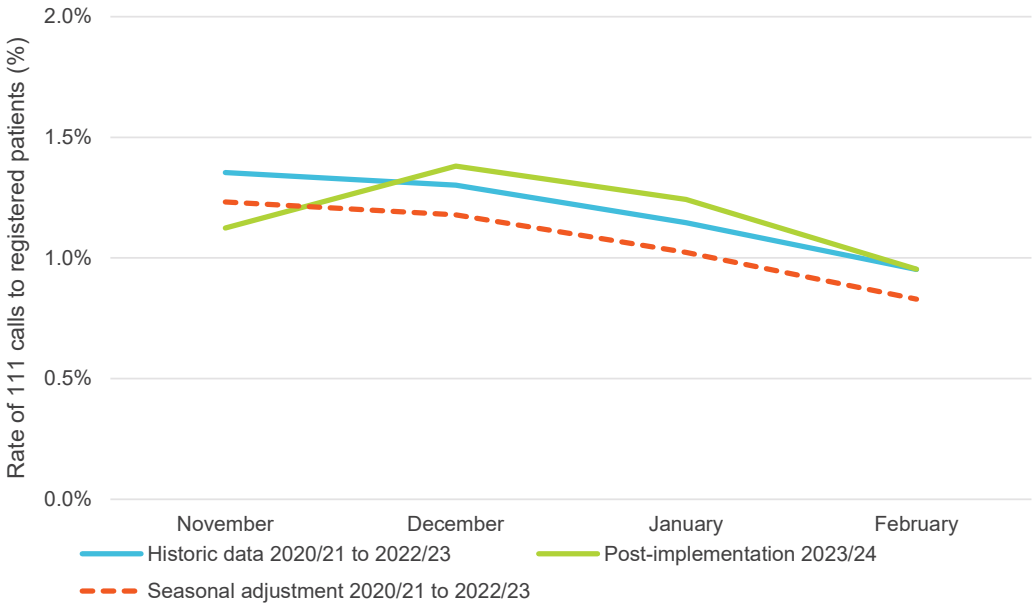

Figure 33: The rate of 111 calls to registered patients when adjusting historic data (2020/21 to 2022/23) to account for the seasonal period (post-implementation average: 1.2%; historical data average: 1.2%; seasonal adjustment average: 1.1%).

3.5. Telephone calls

Number of phone calls

The total number of phone calls to The Groves Medical Centre decreased compared to the winter before (Figure 34). On average, there were 12,828 phone calls each full month in the winter before (November 2022 to February 2023; median = 12,880) and 9,338 phone calls

each full month in the winter following Rapid Health's Smart Triage implementation (November 2023 to February 2024; median = 9,784).

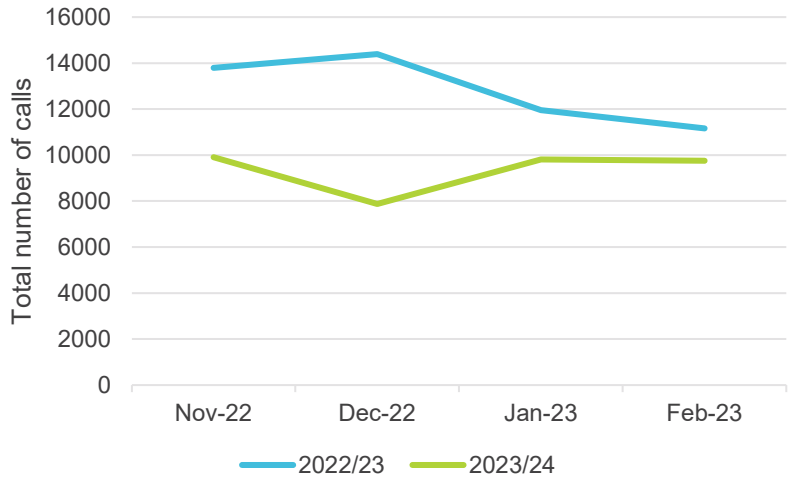

Figure 34: The total number of phone calls to The Groves Medical Centre during the winter before Rapid Health's Smart Triage was implemented and the winter that Rapid Health's Smart Triage was implemented.

Maximum number of telephone calls at one time

Figure 35 depicts the maximum number of telephone calls The Groves Medical Centre received at one time. From October to November, there was a larger decrease in maximum number of calls in 2023/24 when Rapid Health's Smart Triage was implemented, compared to the year before. On average, there were fewer calls at one time when Rapid Health's Smart Triage was implemented (11 calls; with a median of 11 calls), compared to when Rapid Health's Smart Triage was not implemented (26 calls; median of 27 calls).

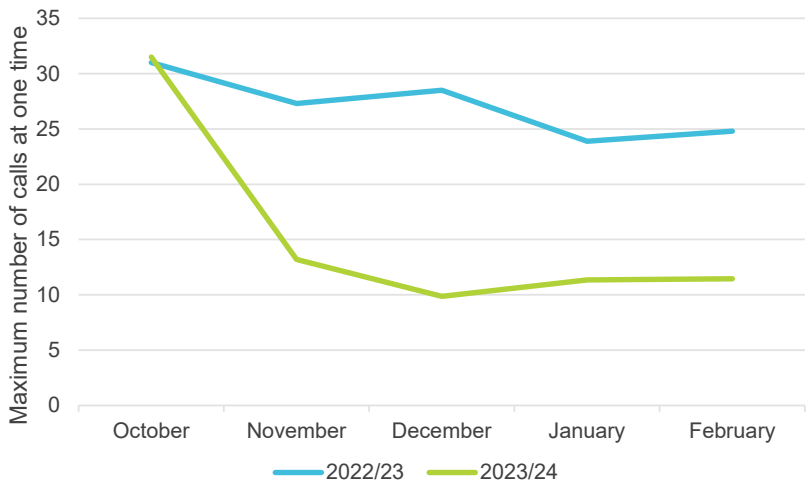

Figure 35: The maximum number of phone calls at one time during the winter before Rapid Health's Smart Triage was implemented and the winter that Rapid Health's Smart Triage was implemented.

Average duration of phone calls

Calls following Rapid Health's Smart Triage implementation lasted 7 minutes 12 seconds on average (with a median of 7 minutes 30 seconds), compared to 5 minutes 46 seconds the year before Rapid Health's Smart Triage was implemented (with a median of 5 minutes 42 seconds; Figure 36). This could be explained by the time taken to explain the new system.

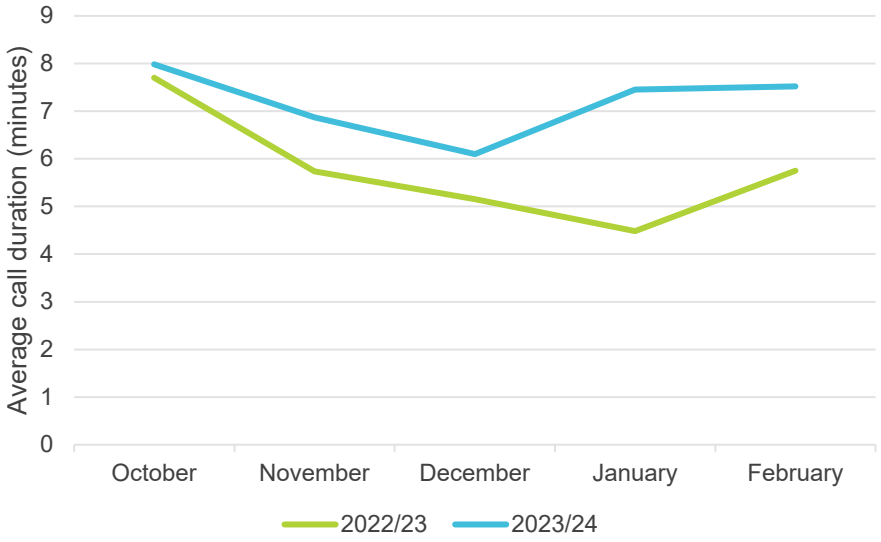

Figure 36: The average duration of phone calls during October to February in 2022/23 (before Rapid Health's Smart Triage implementation) and 2023/24 (after Rapid Health's Smart Triage implementation).

Answered, missed, and abandoned phone calls

The proportion of answered, missed, and abandoned phone calls was compared from the pre-implementation period to the post-implementation period. The percentage of answered phone calls decreased by 14% following Rapid Health's Smart Triage implementation from 52% to 45%. A comparison of rate statistical test was conducted to determine whether there was a statistically significant decrease in the rate of answered phone calls to registered patients at The Groves Medical Centre following Rapid Health's Smart Triage implementation. When comparing the percentage of answered calls before and after Rapid Health's Smart Triage implementation, the pre-implementation period had an incidence rate of 0.50 (95% CI [0.50, 0.51]), whereas the post-implementation period had an incidence rate of 0.44 (95% CI [0.43, 0.44]). The statistical analysis revealed a significant difference between the two groups ($p < 0.001$; 95% CI [1.14, 1.17]).

The number of calls across time was more evenly distributed throughout the day following Rapid Health's Smart Triage implementation, compared to the pre-implementation period, which showed a large increase at 8am (Figure 37). The proportion of abandoned and missed calls increased following Rapid Health's Smart Triage implementation, likely due to patients phoning the practice and opting to complete an appointment request online rather than by telephone. Indeed, there was a telephone message giving them the option to receive a weblink via text to use Rapid Health's Smart Triage.

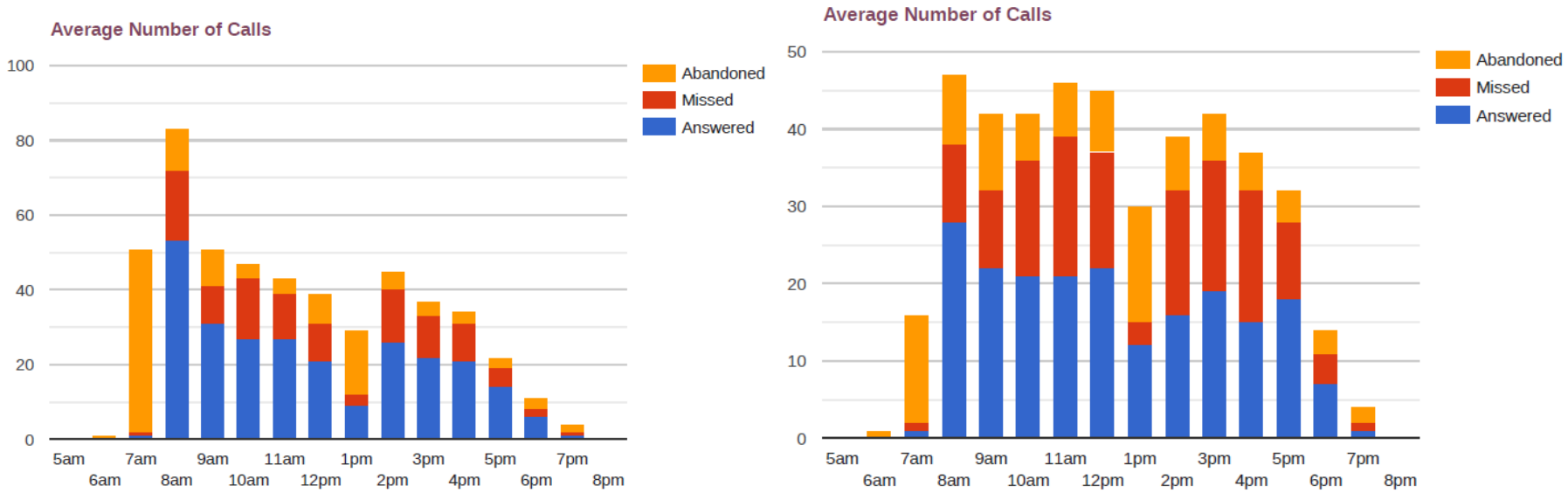

Figure 37: Average number of answered, missed, and abandoned phone calls by time (Left: June 2023; Right: February 2024)

4. Qualitative findings

This section presents the key qualitative insights. For more information, please see 'Appendix D: Qualitative insights continued'.

4.1. Staff surveys

Perceived benefits and challenges of the appointment pathway

There were similar proportions of staff in the pre- and post-implementation surveys who noted benefits of the appointment pathways across all elements apart from for workload, which was 30% lower for the post-implementation period (Figure 38).

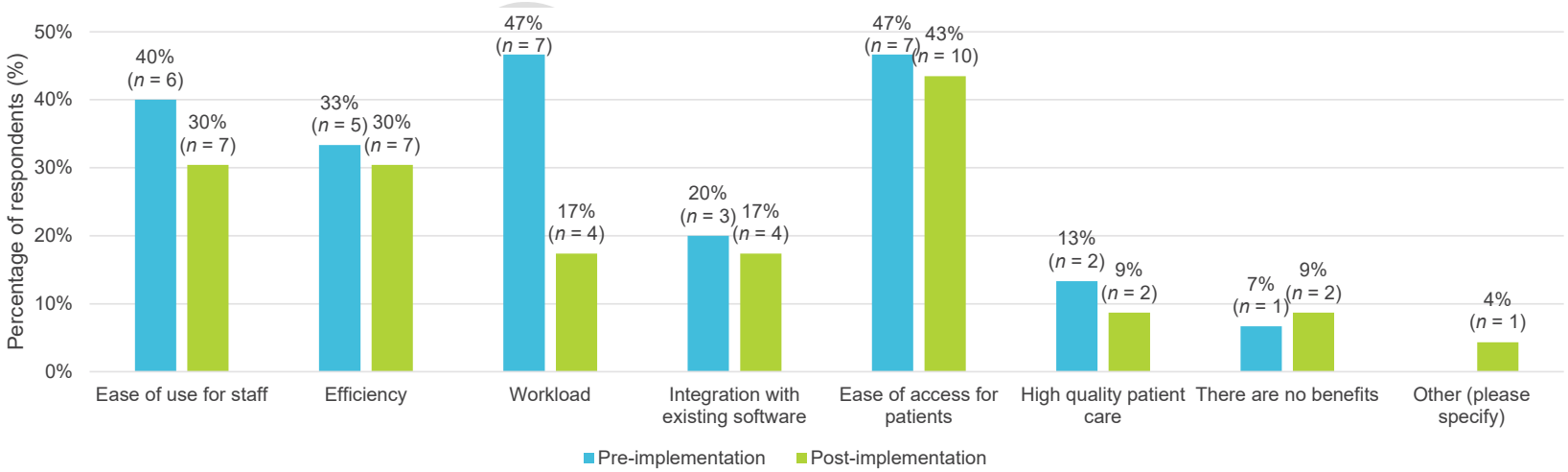

Figure 38: Staff survey responses to the question '*what are the benefits of the current patient appointment pathway?*' in the pre-implementation (*N* = 15) and post-implementation (*N* = 23) periods.

Free-text responses for the previous pathway highlighted elements surrounding ease of use for both staff and patients. One staff member responded that Rapid Health's Smart Triage was a great system that made their lives easy, suggesting some satisfaction in the Rapid Health's Smart Triage process. Another staff member stated that it was no problem if there were appointments available, and another noted that patients do not have to give away a lot of information before they can get their appointment booked.

Two staff members noted no benefits of Rapid Health's Smart Triage. When asked to expand on their answer, one staff member responded "*it did not anticipate the demand and limited amount of appointments available. Everything is urgent or next day and appointments are not available*". This highlights initial difficulties in triaging, further surveying as the staff members may be needed to confirm or infirm these views.

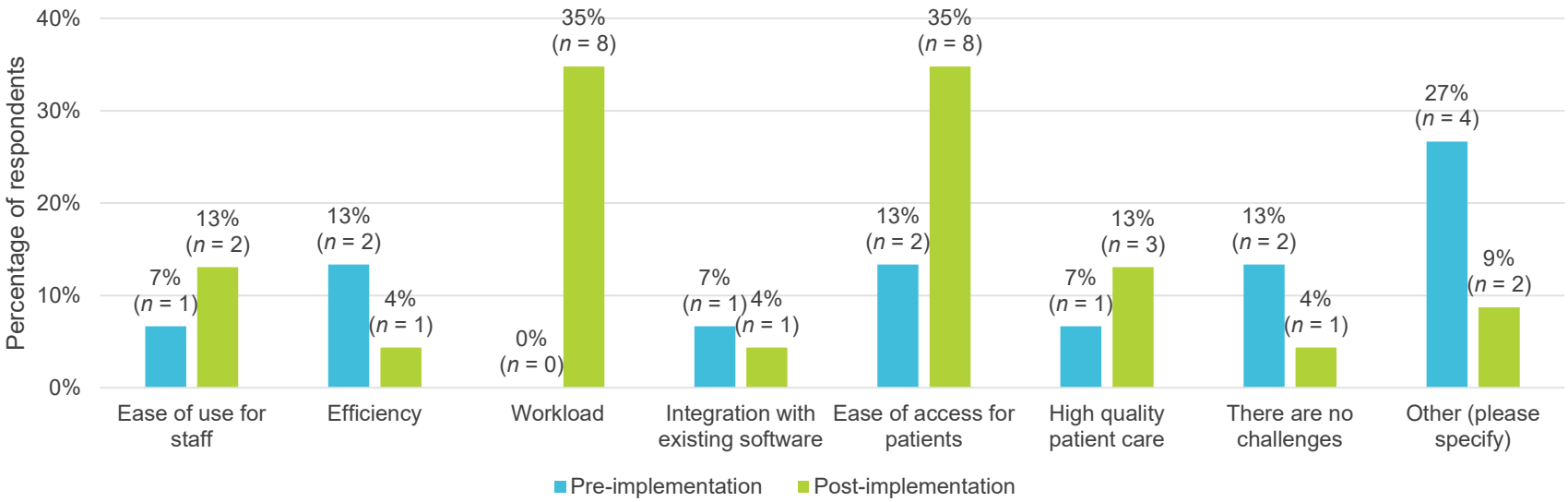

Figure 39: Staff survey responses to the question '*what are the challenges or limitations of the current patient appointment pathway?*' in the pre-implementation (*N* = 15) and post-implementation (*N* = 23) periods.

More respondents in the post-implementation survey considered workload (35%; *n* = 8) and access (35%; *n* = 8) to be a challenge. There was a decrease in the percentage of respondents considering efficiency to be a challenge, however this was only noted by two staff members in the pre-implementation survey and one in the post-implementation survey.

Impact on staff satisfaction

Overall, 30% (*n* = 7) of staff were satisfied with the use of Rapid Health's Smart Triage at The Groves Medical Centre (Figure 40). This consisted of staff who booked and conducted patient appointments. Further, 22% (*n* = 5) of staff disagreed with the statement "*I am satisfied with the use of Rapid Health at The Groves Medical Centre*", implying they were not satisfied with the use of the current patient appointment booking system. This suggests that responses to the statement were evenly distributed.

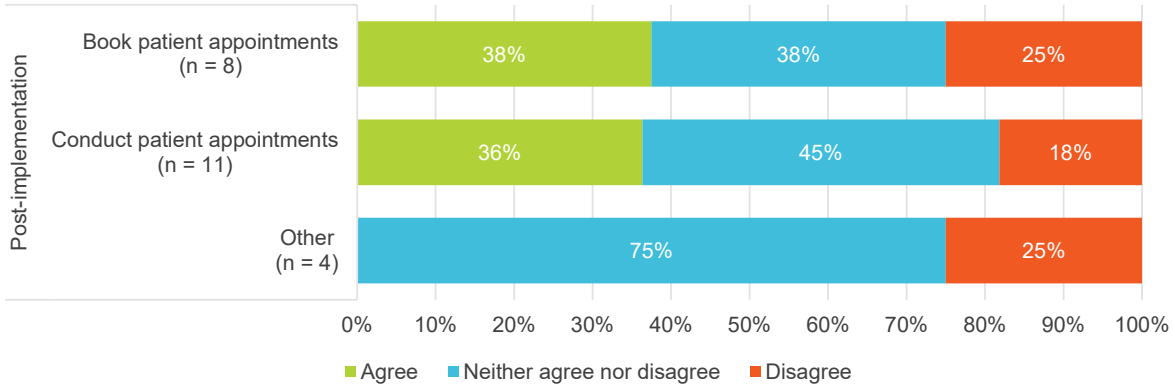

Figure 40: Staff survey responses to the statement '*I am satisfied with the use of Rapid Health at The Groves Medical Centre*' in the post-implementation period (*N* = 23).

In terms of ease of use, Rapid Health's Smart Triage appeared to be easier to use than the previous appointment pathway for those who book patient appointments. Here, 57% (*n* = 13) of all staff considered Rapid Health's Smart Triage easy to use overall, whereas 25% (*n* = 1) of all staff considered the previous patient appointment pathway to be easy to use (Figure 41).

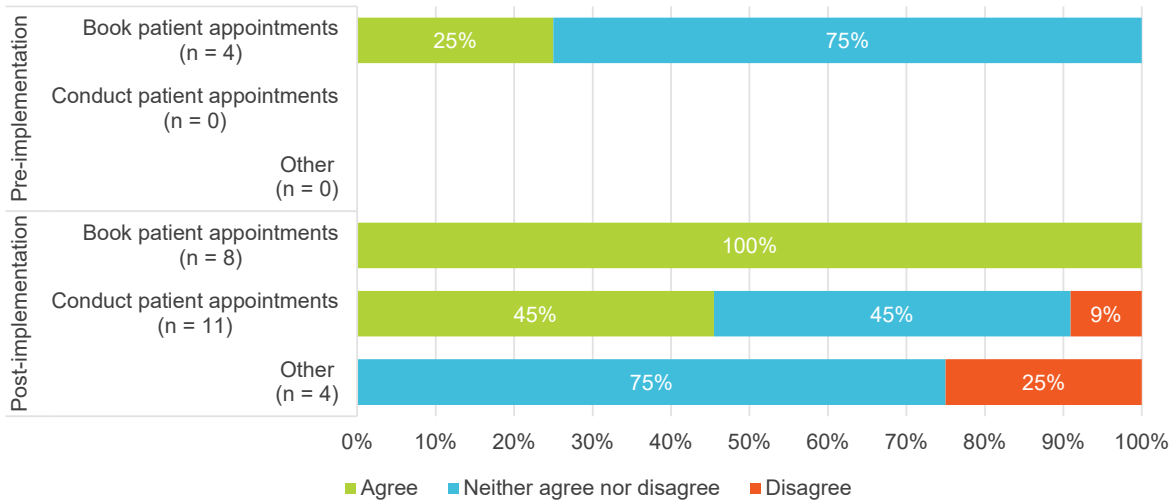

Figure 41: Staff survey responses to the statement '*the current patient appointment pathway is easy to use*' in the pre-implementation (*n* = 4) and post-implementation (*N* = 23) periods.

Two staff members (9%) did not find Rapid Health's Smart Triage easy to use overall. This could be due to teething issues or because the respondents were not using the system as much day to day compared to those who booked appointments through Rapid Health's Smart Triage.

There was no comparator for those who conducted patient appointments or for the other staff roles as they likely did not book patient appointments before Rapid Health's Smart Triage was implemented so this was not asked within the pre-implementation survey. Despite this, findings were either mostly positive or neutral for staff who conduct appointments in the post-implementation period, with one staff member noting disagree.

Most staff members could find the information they needed when using Rapid Health's Smart Triage; 56% (*n* = 13) agreed with the statement "*I can find the information I need when using the Rapid Health platform*" (Figure 42). A greater proportion of staff who booked patient appointments agreed with the statement (88%; *n* = 7) compared to those who conduct appointments (55%; *n* = 6) and those in '*other*' roles (0%; *n* = 0).

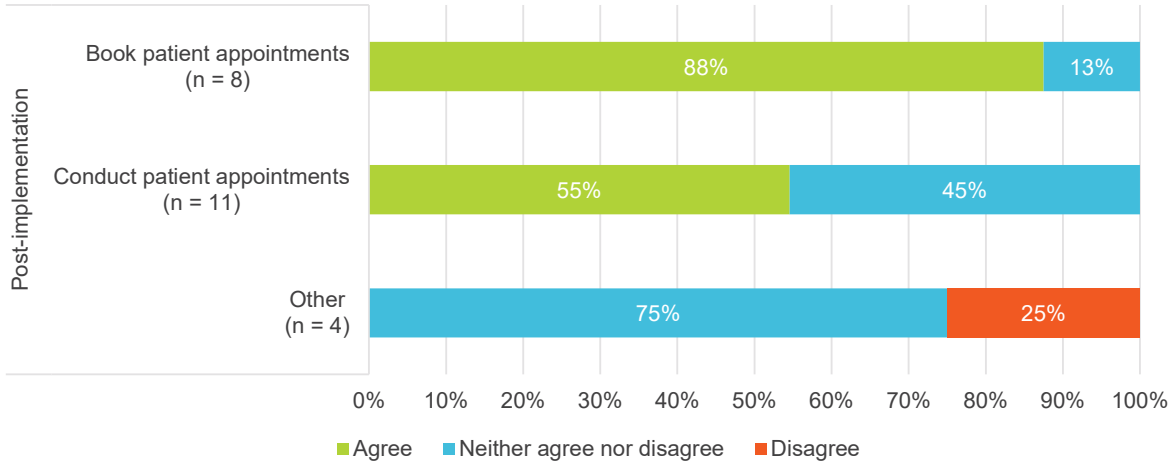

Figure 42: Staff survey responses to the question '*I can find the information I need when using the Rapid Health platform'* in the post-implementation period (*N* = 23).

In the post-implementation period, a greater number of staff involved in booking patient appointments reported a noticeable impact on their workload due to Rapid Health's Smart Triage implementation. Specifically, 67% (*n* = 4; Figure 43) identified a more positive impact, while 33% (*n* = 2) noted a more negative impact. In contrast, during the pre-implementation period, only 20% (*n* = 1) reported a positive impact and 20% (*n* = 1) reported a negative impact on their workload. When asked why Rapid Health's Smart Triage had a positive impact on their workload, one staff member noted "*it means we as receptionists don't have to triage patients when we're not medically trained, Rapid Health reduces phone queues and our next pre-bookable appointment is now a week away, not 3-4 weeks away*".

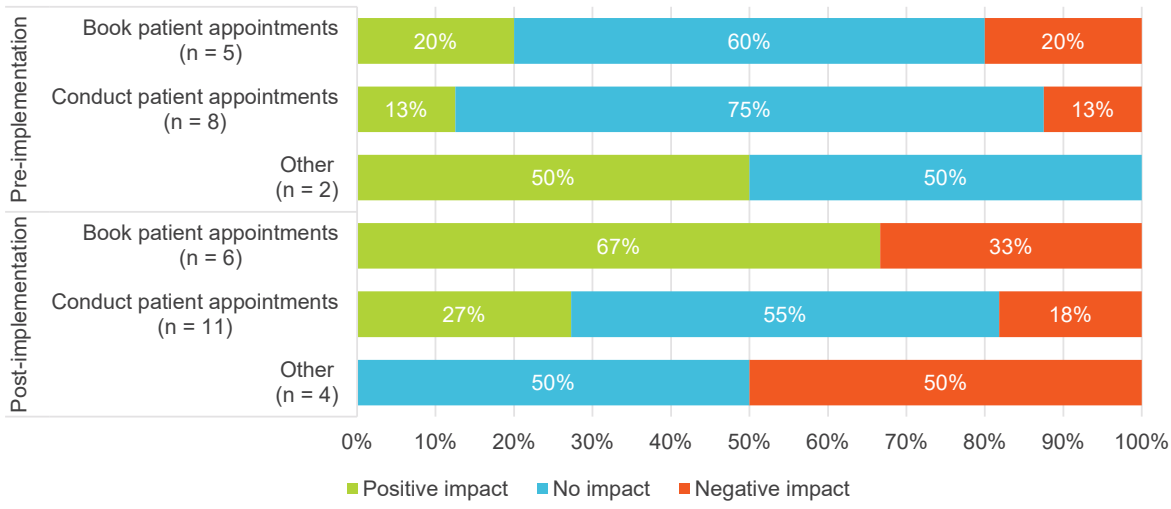

Figure 43: Staff survey responses to the question '*what impact does the patient appointment pathway have on your workload?*' in the pre-implementation (*N* = 15) and post-implementation (*n* = 21) periods.

A greater proportion of staff who conducted appointments noted Rapid Health's Smart Triage had a positive impact (27%; *n* = 3) compared to the previous pathway (13%; *n* = 1). One staff member noted that Rapid Health's Smart Triage "*makes sure patients need to be seen in correct time frame*" and that Rapid Health's Smart Triage "*filters out appropriate patients to be seen*". This highlights the benefits of the automated triaging process possessed by Rapid Health's Smart Triage, leading to a positive impact on staff workload.

In terms of whether Rapid Health's Smart Triage resulted in a stress-free experience in work, 63% (*n* = 5) of staff who booked appointments disagreed with the statement "*overall, Rapid Health results in a stress-free experience in my everyday work*" (Figure 44). Rapid Health's Smart Triage appeared to help staff who conducted appointments as 36% (*n* = 4) of staff agreed with the statement, compared to 25% (*n* = 2) before implementation.

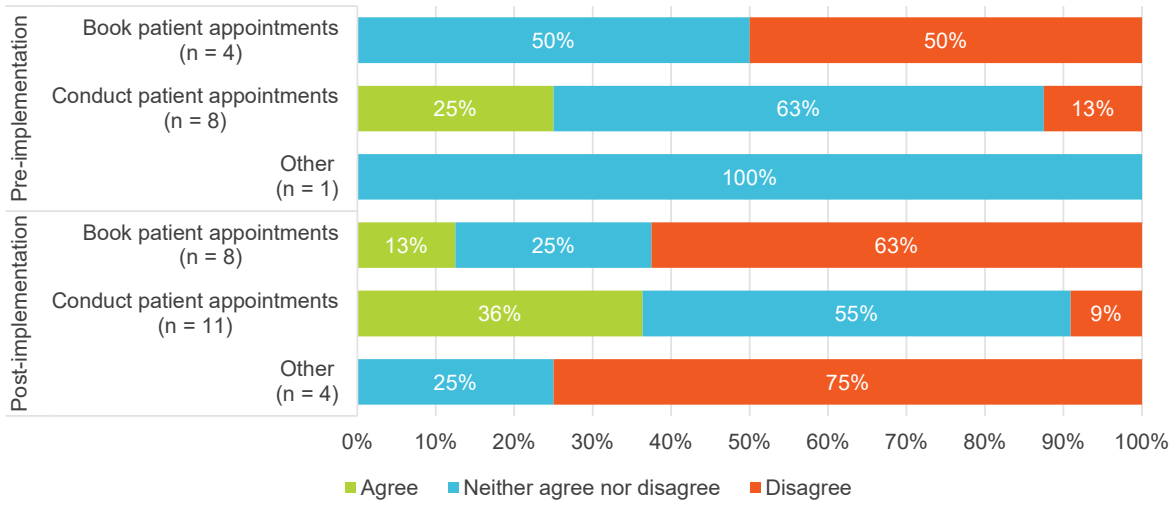

Figure 44: Staff survey responses to the statement '*the current patient appointment pathway is a stress free experience in my everyday work*' in the pre-implementation (*n* = 13) and post-implementation (*N* = 23) periods.

Staff were asked how likely they were to recommend Rapid Health's Smart Triage to other GP practices. Here, a net promoter score (NPS) between -100 and 0 suggests improvement is required. In the staff post-implementation survey, an NPS score of -64 was identified (Figure 45).

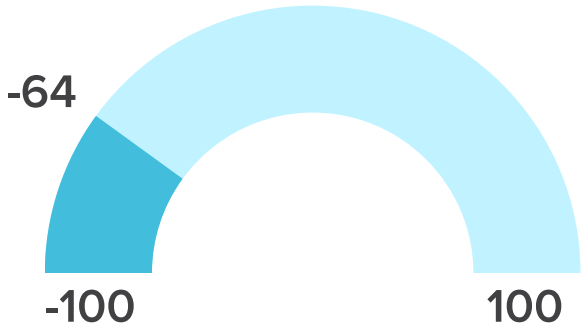

Figure 45: Net promoter score, where -100 to 0 suggests improvement is required.

Impact on patients and patient appointments

Staff appeared undecided regarding whether Rapid Health’s Smart Triage facilitates high-quality patient care; a high proportion of staff (75%; *n* = 6) responded with '*neither agree nor disagree*’. One staff member who disagreed with the statement noted “*why and how can an appointment booking system facilitate the provision of high-quality care?*”. This can be explained as providing high-quality care is multi-factorial and does not solely depend on the technology used to book appointments. Another explanation could be the timing of the survey, for example, being conducted soon after the go-live date, which could impact staff perceptions as the change was not yet embedded and the staff members were still learning to use the new system.

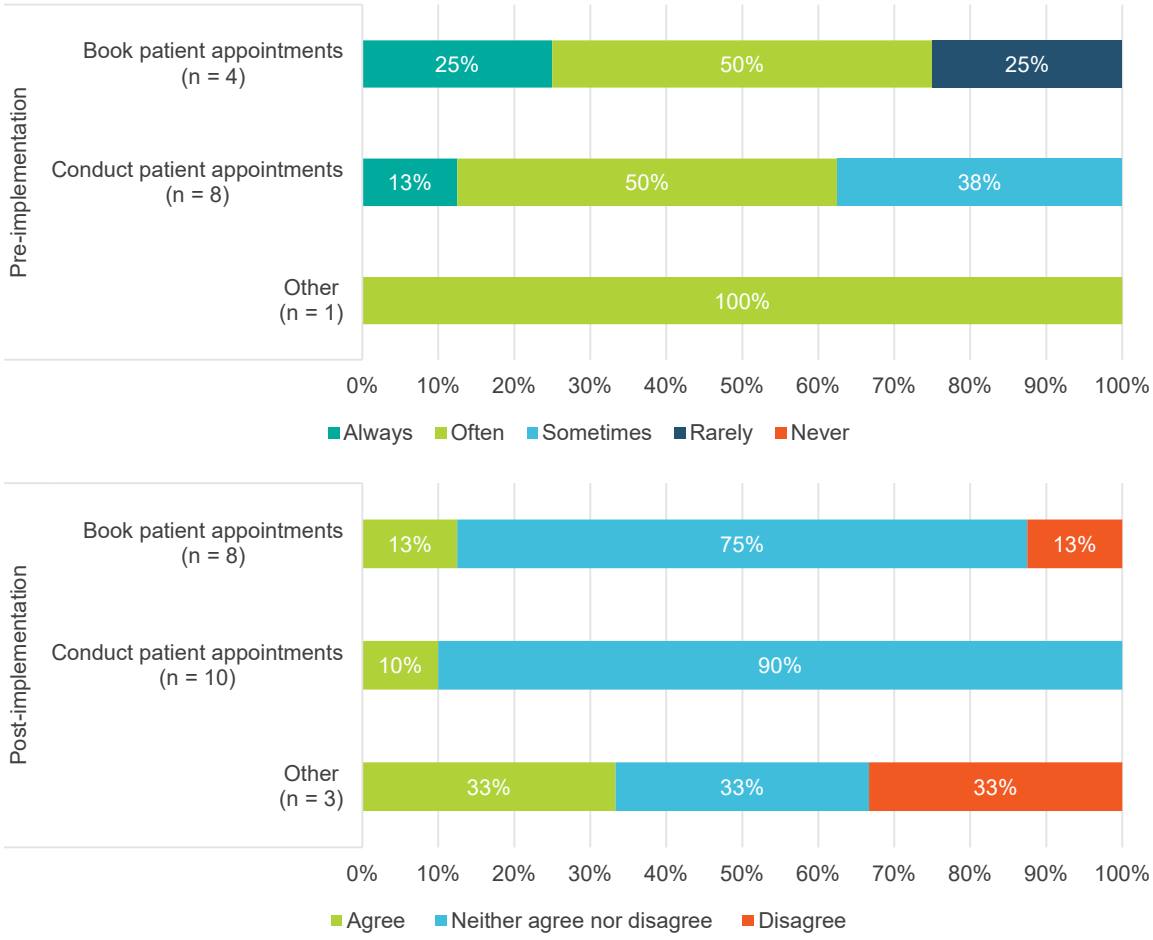

Figure 46: Staff survey responses to the statement '*the current patient appointment pathway helps to facilitate the provision of high-quality patient care*' (*n* = 19).

Two staff members noted that Rapid Health's Smart Triage did not facilitate high quality patient care: "*perhaps if we had more doctors or appointments [Rapid Health] would work but unfortunately it doesn't*". This could suggest either potential lack of capacity to handle the patient demand or misunderstanding regarding the Rapid Health's Smart Triage setup and appointment availability. Another staff member noted "*a lot of appointment requests for [patients] go into the inbox which say they required urgent on the day appointments which we do not have the capacity for*".

Of those who noted neither agree nor disagree, some staff highlighted reasons due to patients' digital literacy and ability. For example, "*I think a lot of patients complain about Rapid Health, the extensive number of questions. The patients complaining tend to be the less computer able*" and "*it's a great system, but still we need to help the elderly and the patients not using technologies*".

When asked whether Rapid Health's Smart Triage successfully supported the move to 15-minute appointments, 43% agreed, 26% were neutral, and 30% disagreed (Figure 47).

There was an even split of '*agree'* and '*disagree'* (38% respectively) among staff members in charge of booking appointments, highlighting the mix of opinions on the system at the time of the survey. When asked to explain their answer, a care navigator noted they disagreed with the statement because they had more appointments before implementation. They further stated that Rapid Health's Smart Triage has helped doctors, but not reception or administrative staff.

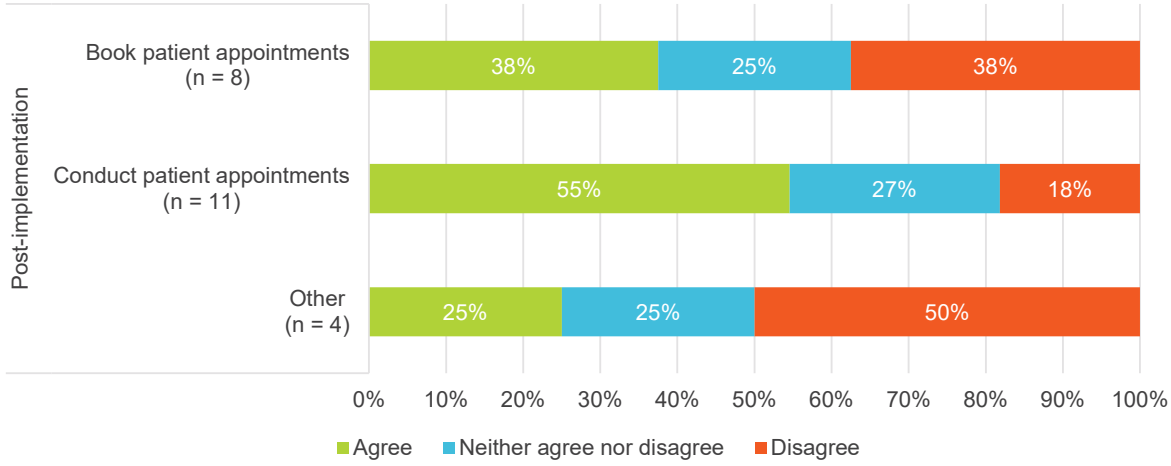

Figure 47: Staff survey responses to the statement '*Rapid Health has successfully supported the move to 15-minute appointments*' (*n* = 23).

There were more staff who conducted patient appointments who agreed with the statement (55%; *n* = 6) than disagreed (18%; *n* = 2) or remained neutral (27%; *n* = 3), suggesting that the move to 15-minute appointments was supported by Rapid Health's Smart Triage. When asked to explain their answer, one staff member who conducted appointments disagreed because patients did not appear happy with the system. Alternatively, one staff member agreed because "*seeing more complex patients requires longer time which works together well*". This points to the benefits of Rapid Health's Smart Triage on quality of care. Two staff members responded with '*strongly disagree*', where one stated that Rapid Health's Smart Triage has nothing to do with the time of the appointments because the staff members determine this. The other staff member noted elements around patients filling in the information incorrectly, which resulted in staff having to retake their patient's history.

Figure 48 suggested that responses were mixed around whether staff who conducted patient appointments had more time to manage complex patients. Here, 22% (*n* = 2) of staff felt they had more time, whereas 33% (*n* = 3) felt they had less time (Figure 48).

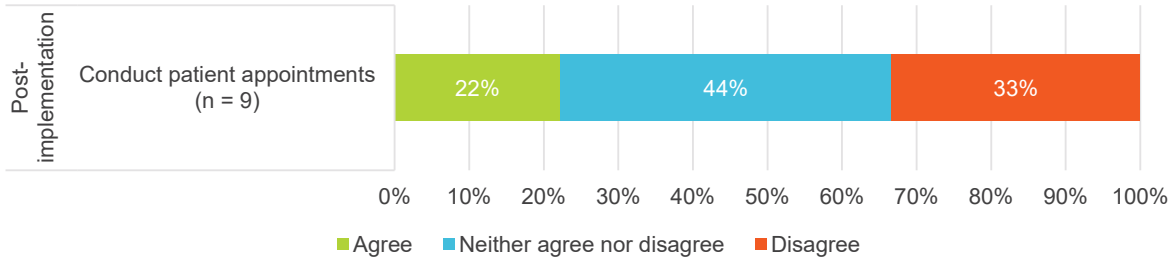

Figure 48: Staff survey responses to the statement '*due to Rapid Health, I now have more time to dedicate to managing complex patients*' (*n* = 9).

4.2. Patient surveys

Friends and Family survey

Patients had similar experiences of the service provided at The Groves Medical Centre overall, with 93% (*n* = 1,412) rating their experience as either '*very good*' or '*good*' in the pre-implementation period, compared to 89% (*n* = 2,162) in the post-implementation period. The post-implementation figure is similar to the regional and national levels of patient satisfaction, where 92% (*n* = 126,980) of patients in NHS South West London ICS and 91% (*n* = 3,741,605) of patients in NHS England overall rated their experience as either '*very good*' or '*good*'.

Data was cleaned to only include patients who noted experiences when booking appointments. Patients had similar experiences of the service provided at The Groves Medical Centre within both the pre- and post-implementation periods (Figure 49).

Rated their experience of the service provided by The Groves Medical Centre in the post-implementation period as either 'very good' or 'good', compared to 85% in the pre-implementation period

Figure 49: The Groves Medical Centre Friends and Family patient survey responses who responded with either '*very good*' or '*good*' to the question '*overall, how was your experience of our service?*' within the pre-implementation (*n* = 180) and post-implementation (*n* = 474) periods, using only responses related to booking patient appointments.

For The Groves Medical Centre, when analysing the proportion of '*very good*' and '*good'* responses to '*overall, how was your experience of our service?*' over time, responses decreased from September 2023 to November 2023, with a small increase from November 2023 to January 2024 (Figure 50).

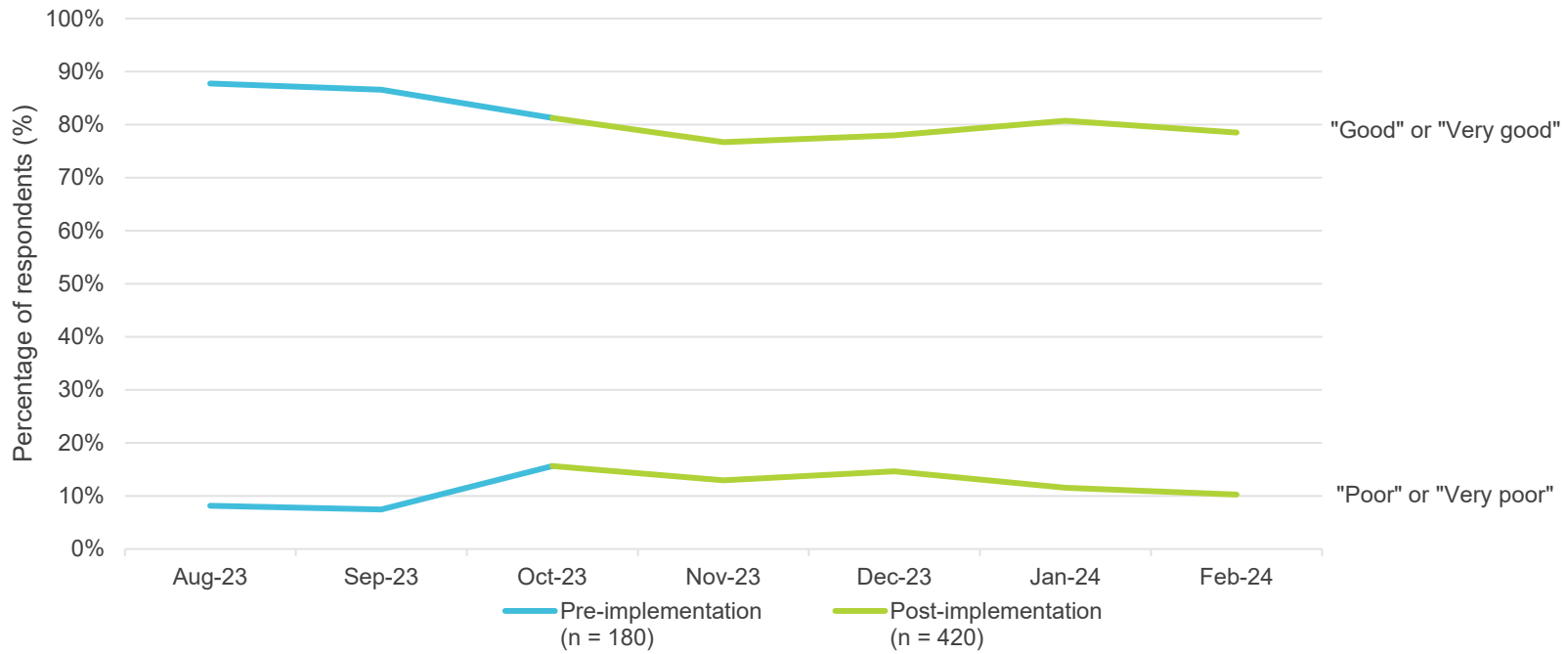

Figure 50: The proportion of patients at The Groves Medical Centre who responded with either '*very good*' or *'good'* and '*very poor*' or '*poor'* to the question '*overall, how was your experience of our service?*' in the pre-implementation (*n* = 180) and post-implementation (*n* = 420) periods.

When examining the proportion of patients who responded with '*very poor*' or '*poor*' surrounding the overall experience of the service provided by The Groves Medical Centre, there were two slight increases: one in October 2023 (7% to 16%) and another in December 2023 (13% to 15%; Figure 50). Between and after these peaks, there was an overall decline in the proportion of '*very poor*' and '*poor*' responses across the post-implementation period.

When asked how easy it was to book their appointment, a similar proportion of patients in the post-implementation period found it easy to book their appointments online (54%; *n* = 95; pre-implementation: 75%; *n* = 3) and in person (51%; *n* = 35; pre-implementation: 25%; *n* = 2; Figure 51). A lower proportion of patients in the post-implementation period found it easy to book their appointments by telephone (37%; *n* = 44), compared to the pre-implementation period (50%; *n* = 6). Despite this, it should be noted that there is a much smaller sample size for the pre-implementation period.

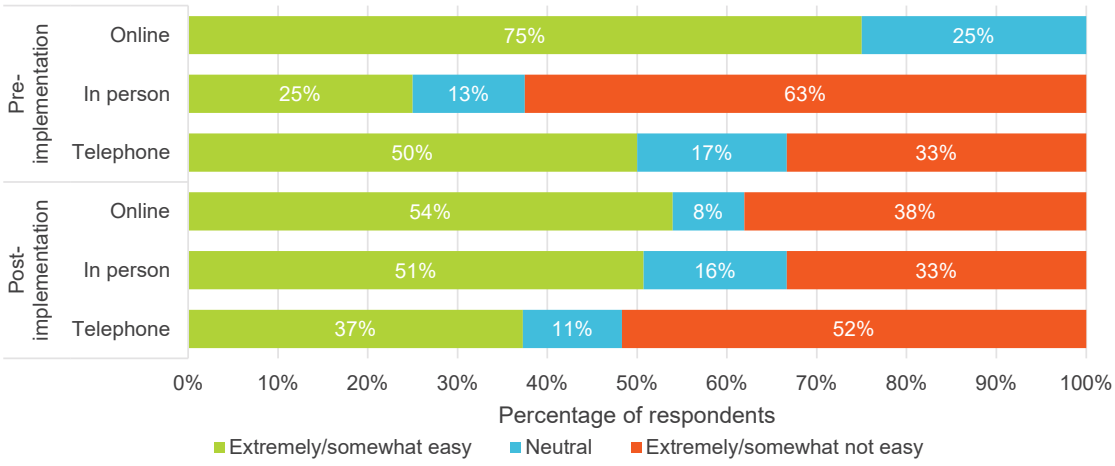

Figure 51: Patient responses to the question '*how easy was it to book your appointment?*', divided by the method patients used to book their appointment in the pre-implementation (*n* = 24) and post-implementation (*n* = 363) periods.

Post-implementation patient survey

Methods of completing admin and medical requests

Most patients surveyed submitted their own appointment requests (95%; *n* = 19), with 5% (*n* = 1) of patients having someone else complete their appointments for them. The patient who had someone complete their requests for them noted that they did not feel capable in navigating digital technologies and their requests were completed either by telephone or in person.

Respondents used multiple means of requesting an appointment at The Groves Medical Centre. Most patients had submitted appointment requests by telephone (79%; *n* = 14), in person (63%; *n* = 12), and online (70%; *n* = 15). Fewer patients submitted appointment requests in person compared to other methods.

When asked why they submitted requests by phone or in person rather than online, most respondents stated that they preferred speaking to the reception team (67%; *n* = 12; Figure 52). Few patients noted difficulty obtaining an appointment through Rapid Health's Smart Triage as a reason (22%; *n* = 4) and 6% (*n* = 1) noted difficulties with Rapid Health's Smart Triage functionality.

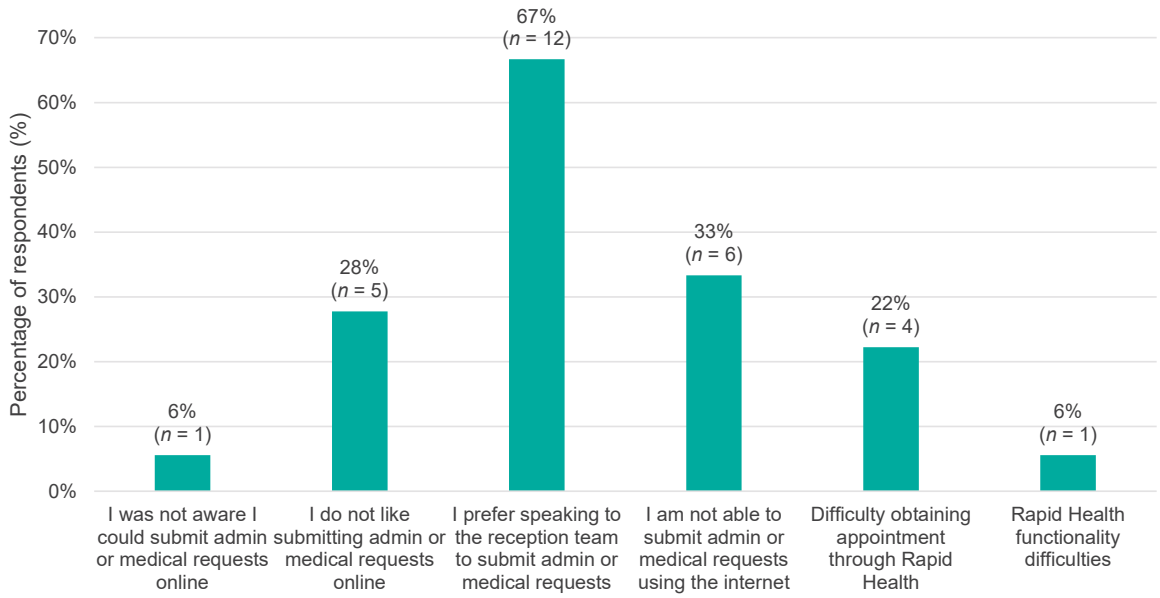

Figure 52: Patient survey responses to '*why did you submit some or all of your admin or medical requests [by telephone/in person], rather than submitting them online?*' (*n* = 19).

Experience and satisfaction

Overall, 24% (*n* = 4) of patients agreed with the statement "*having the ability to choose my appointment date and time has made the experience of booking a medical appointment less stressful*", with 65% (*n* = 11) disagreeing with the statement. Further, 20% (*n* = 3) of patients agreed with the statement "*submitting admin or medical requests using Rapid Health was easy*", with 73% (*n* = 11) disagreeing with the statement. One patient who considered submitting requests using Rapid Health's Smart Triage to be easy stated "*it's easier than being on the telephone for ages while waiting just to book an appointment*". Conversely, patients who disagreed highlighted elements surrounding the option boxes not covering the symptoms they were wanting to note: "*it didn't include the symptoms of issues that were extremely urgent but didn't fit in a box that was available*". One patient noted difficulty to get an appointment online on "*a number of occasions*".

In free-text responses regarding their overall experience requesting care in the last three months, some patients (21%; *n* = 4) noted concerns around a lack of appointment availability. Here, one patient noted they were unable to obtain appointment times that suited their needs. Another patient noted they were unable to receive an appointment due to a lack of GPs available. The patient expressed apprehensiveness around having consultations with a physician associate rather than a GP - "*very concerned that Physician Associates are used instead of qualified doctors*". They noted that appointment availability was particularly difficult around the school holidays. Two patients highlighted that there was a lack of GPs compared to the number of patients at the practice.

Patients who submitted appointment requests by telephone appeared to disagree the most with the proposed statements, compared to those who submitted appointments in person and online (Figure 53).

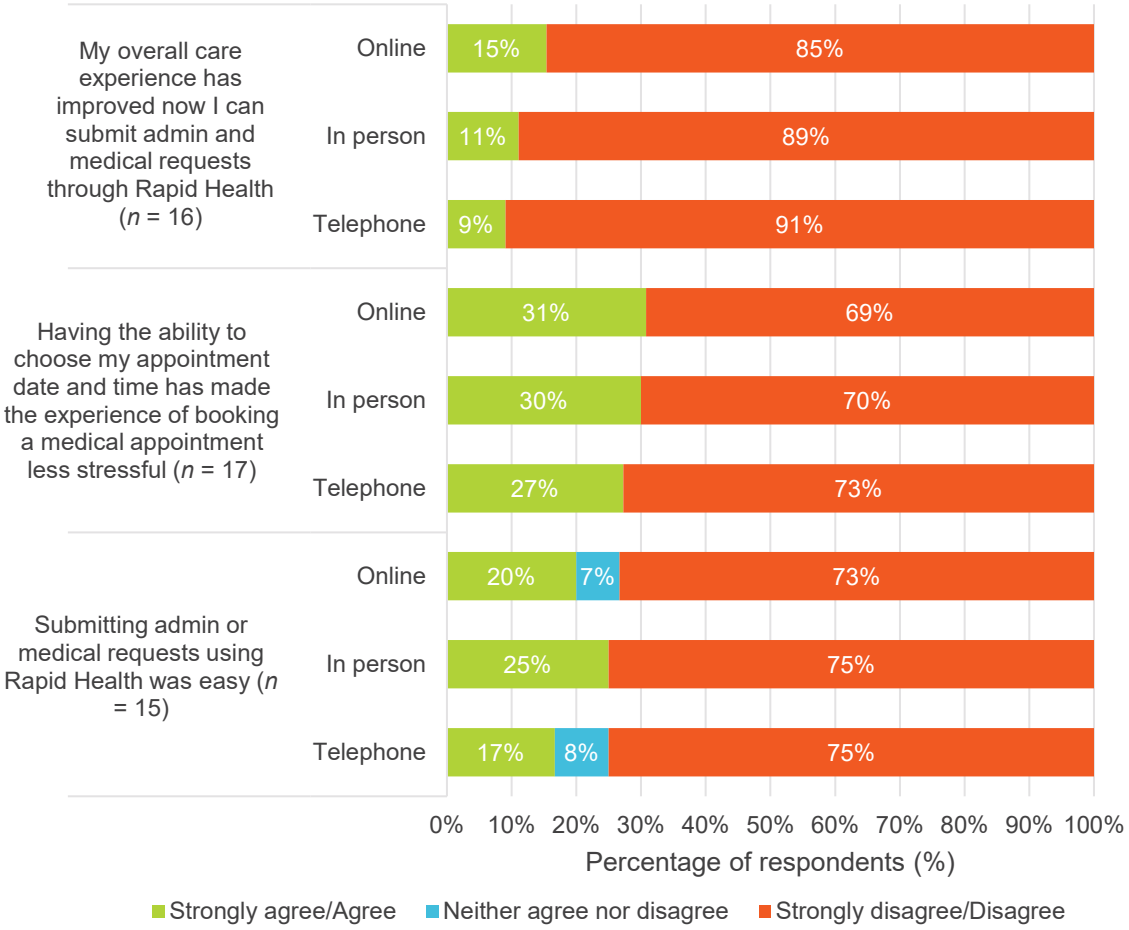

Figure 53: Patient survey responses to the statements '*my overall care experience has improved now I can submit admin and medical requests through Rapid Health*' (*n* = 16), '*having the ability to choose my appointment date and time has made the experience of booking a medical appointment less stressful*' (*n* = 17), and '*submitting admin or medical requests using Rapid Health was easy*' (*n* = 15).

Most patients (71%; *n* = 10; Figure 54) found Rapid Health's Smart Triage to be more difficult compared to the previous way to submit admin or medical requests at The Groves Medical Centre. Further, 21% (*n* = 3) noted Rapid Health's Smart Triage to be easier than the previous pathway and 7% (*n* = 1) suggested Rapid Health's Smart Triage was neither easier nor more difficult. When asked to expand on their answer, patients noted difficulties with selecting the symptoms they were experiencing and difficulties obtaining appointments. Some patients noted positive experiences as they found submitting admin requests to be easy and submitting request online was noted to be easier than over the phone as there were no queues when submitting requests.

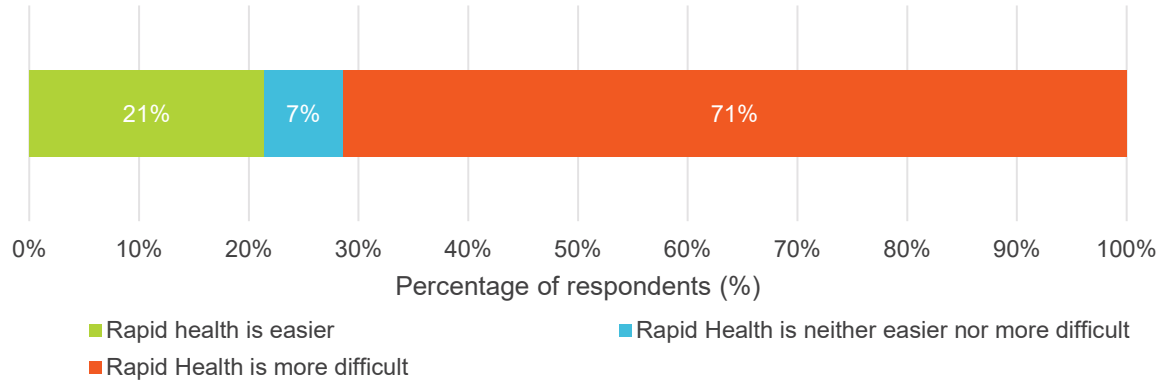

Figure 54: Patient survey responses to the question '*how does Rapid Health compare with the previous way to submit admin or medical requests at The Groves Medical Centre?*' (*n* = 14).

Patients were asked whether they had any additional comments or suggestions regarding their overall experience requesting care in the last three months. Some patients also noted the long time taken to book appointments (21%; *n* = 4). For one patient, the long wait resulted in no available appointment after being on hold for 30 minutes at 8am. Another patient, who also waited 30 minutes, noted "*When I booked an appointment for my kids, I have to phone the reception, but it always took around 30 minutes to get my call heard. It's such a long queue even though I call just after the line is open*". This highlights that some patients are still experiencing difficulty obtaining appointments due to phoning the practice. Despite this, it should be noted that Rapid Health's Smart Triage is not used for paediatric patients.

Other patients noted concerns around the questions asked by Rapid Health's Smart Triage (11%; *n* = 2). One patient considered the questions to be tailored towards those with clinical backgrounds - "*Rapid Health system can be useful only for medically trained patients. So many questions need to be answered*". Another patient considered some questions to be "*irrelevant*".

5. Limitations

5.1. Quantitative insights

Appointment slots and requests via Rapid Health

The Groves Medical Centre did not record patient contacts where care is requested that does not result in an appointment, for example prescription requests. This meant that most of the analysis focused on attended appointments to enable comparison between the pre- and post-implementation periods. As a result, the data does not contain insights on all requests triaged by The Groves Medical Centre when comparing the pre- and post-implementation periods. This may not fully reflect the overall impact of Rapid Health's Smart Triage on patient access to care.

Patient consultation time was defined in the current evaluation as the time taken from an EMIS user opening the consultation in EMIS and the EMIS user then saving and closing the consultation in EMIS. This is not the actual consultation time, but the best proxy available. Despite this, the metric examined may not be accurate within the data; some staff members leave the consultation open whilst they complete their patient notes. Consequentially, this may not provide an accurate overview of the consultation times before and after Rapid Health's Smart Triage implementation.

Obtaining the number of A&E attendances at The Groves Medical Centre was unable to be obtained. Instead, this was identified for NHS England overall. It could be that The Groves Medical Centre may have a lower level of A&E attendances compared to the national average. Being able to obtain this data would allow a greater level of insight.

111 call data

The 111 call data did not specify whether patients phoned 111 due to Rapid Health's Smart Triage or other reasons. This means that the observed rate of 111 calls in the post-implementation period cannot be attributed to the implementation of Rapid Health's Smart Triage. Consequently, other unrelated factors could have influenced the rate of 111 calls, making it difficult to accurately assess the impact of Rapid Health's Smart Triage on patient use of secondary care services. This limitation restricts the ability to draw clear conclusions about the effectiveness of Rapid Health's Smart Triage in reducing or altering 111 call rates.

DNA data

The DNA appointment data did not specify the reasons as to why patients did not attend appointments. This means that the rate of DNAs in the post-implementation period cannot be definitively linked to the implementation of Rapid Health's Smart Triage, as patients may

have missed appointments for a variety of other reasons. Given that the rate of DNAs is typically influenced by multiple factors (NHS England, 2023c), attributing changes in DNA rates solely to Rapid Health's Smart Triage implementation is challenging. This limitation complicates the assessment of Rapid Health's Smart Triage's impact on patient attendance and the overall effectiveness of the appointment booking system.

Phone call data

Various factors could have influenced the total number of calls per day, the average length of calls, and the maximum number of calls per day. Without the ability to determine the specific reasons for each phone call, some patients may have contacted the practice for reasons unrelated to appointments, complicating the analyses. Additionally, while charts from previous management reports at The Groves Medical Centre depicted the average proportion of answered, missed, and abandoned calls over time for each month, the underlying data was not extractable meaning further insight could not be obtained. Consequently, the analysis of these charts was limited to visual inspection, reducing the precision and reliability of the findings. This limitation hinders the ability to draw definitive conclusions regarding the impact of the implementation on call patterns and practice efficiency.

5.2. Qualitative insights

Staff surveys

There is no assurance that the same individuals participated in both the pre- and post-implementation staff surveys. Despite this, the consistency in the distribution of roles and years of experience among respondents suggests that it is likely that at least some staff completed both surveys.

Some staff who completed the pre-implementation survey may have mistakenly thought the survey was related to their experience with Rapid Health's Smart Triage, potentially biasing their responses. This uncertainty arises because the staff survey was distributed between November 2023 and December 2023, after Rapid Health's Smart Triage implementation had already begun. Surveys that mentioned Rapid Health's Smart Triage were removed from the analysis, however some surveys could have referred to the new booking system without mentioning Rapid Health's Smart Triage specifically. This potentially limits the accuracy of findings within the pre-implementation survey.

While many staff members attributed issues to Rapid Health's Smart Triage as a product, these concerns may actually stem more from how Rapid Health's Smart Triage was configured by The Groves Medical Centre. Rapid Health's Smart Triage allows for customisation, enabling GP practices to select their preferred methods of use. Changes in

how The Groves Medical Centre configures Rapid Health's Smart Triage could potentially alter staff perceptions and lead to higher satisfaction levels. Furthermore, different Likert scales were employed in the pre- and post-implementation surveys for statements such as "*the patient appointment pathway helps to facilitate high-quality patient care*". This discrepancy in measurement makes direct comparison challenging and limits the depth of insights that can be drawn.

The timing of survey distribution during the busy winter period (November 2023 to December 2023 for the pre-implementation survey and February 2024 to March 2024 for the post-implementation survey) may have influenced responses. While administering surveys during this period was inevitable due to the Rapid Health's Smart Triage implementation timeline starting in October 2023, seasonal factors like winter pressures could have affected staff perceptions differently if surveyed at other times.

There is a possibility of acquiescence bias, where staff may have exaggerated issues in hopes of prompting improvements. This bias could skew the severity of reported problems. Lastly, while the surveys allow for comparing pre- and post-implementation perspectives, they do not establish causation. Factors beyond Rapid Health's Smart Triage implementation, such as seasonal variations and operational changes, may also have influenced the observed outcomes.

Patient surveys

Friends and Family survey

The survey questions did not specifically focus on the booking process but rather on the overall appointment experience, making it difficult to attribute feedback solely to Rapid Health's Smart Triage. This ambiguity complicates the assessment of the impact of the appointment booking system on patient perceptions and satisfaction. In an attempt to mitigate this, data was cleaned to only include responses that highlighted their experience booking appointments in the free-text responses.

Due to the large number of responses in the Friends and Family survey, there was uncertainty regarding the semantics in free-text responses. For instance, patients might describe a "*good*" experience due to an efficient pathway while also mentioning improvements in communication within the same response. Efficiency and communication would be highlighted as themes in this instance, however communication was not necessarily the reason why the experience was good. This variability in interpretation can lead to potential misrepresentation or misunderstanding of patient feedback.

An increase in patient feedback highlighting elements of patient choice during the post-implementation period could suggest improvements facilitated by Rapid Health's Smart Triage. Despite this, it remains unclear whether these changes were solely due to Rapid Health's Smart Triage or influenced by other factors. Furthermore, since different patients likely completed each survey, variations in experiences at The Groves Medical Centre between the pre- and post-implementation periods are inevitable. These variations limit the

ability to draw definitive conclusions about the specific effects of Rapid Health's Smart Triage on patient-reported outcomes.

Post-implementation patient survey

There was difficulty in accurately interpreting written answers provided in the paper patient survey. This challenge arose due to some written responses lacking in clarity and legibility, making interpretation challenging.

The low number of responses received limited the robustness of the findings. This means the sample may not adequately represent the diversity of patient experiences and perspectives within The Groves Medical Centre. This limitation restricts the generalisability of conclusions drawn from the survey data. Despite this, the survey sample showed similar demographics compared to the wider registered patient population, suggesting the sample was representative of patients at The Groves Medical Centre.

Patients who are more dissatisfied with the service provided at The Groves Medical Centre may be more motivated to complete the survey compared to those with less negative experiences. This could skew the results toward negative feedback, potentially misrepresenting the overall patient experience and leading to an overestimation of issues within the care provided.

6. Discussion

Does Rapid Health's Smart Triage lead to improved access to care?

The 2023 *GP Patient Survey* (NHS England, 2023b) highlighted that 71% of patients at The Groves Medical Centre experienced difficulty getting through to someone at the practice via telephone. Following the introduction of 24/7 online request submissions through Rapid Health's Smart Triage, the proportion of patients who had a booked appointment slot and submitted their request online increased from 12% to 82% (Figure 28) and the number of telephone calls to the practice decreased by 3,490 each month on average (Figure 34). This means that most patients were able to use Rapid Health's Smart Triage online to access care, leaving the available capacity for patients unable to use digital technologies or patients not currently included in the Rapid Health's Smart Triage process (for example, patients under 16 years old) to submit their requests via telephone or in person.

Comparing the 2024 *GP Patient Survey* (NHS England, 2024d) results to the 2023 results at The Groves Medical Centre, there was a 32% decrease (71% to 48%) in patients experiencing difficulty getting through to someone at the practice via telephone. This patient-reported improvement shows that access to care via telephone at the practice has improved following Rapid Health's Smart Triage implementation. Improved access to care enhances

the convenience and timeliness of medical consultations, allowing patients to receive medical advice and support more quickly, which can lead to earlier interventions and better health outcomes (Shi, 2012; Starfield et al., 2005).

Previously, extended wait times at 8am may have caused patients to hang up and give up on receiving care. Following the Rapid Health's Smart Triage implementation, patients could request care at any time of day. The maximum telephone call concurrency was at 8am in the post-implementation period, however each month the proportion of care requests at this time decreased by 16% on average (Figure 15). This reduction during the '*8am rush*' likely resulted in shorter phone queues, and faster access to the practice by telephone. Further, patients are also finding requesting care online easier; 61% of surveyed patients noted they found requesting care online either '*extremely easy*' or '*somewhat easy*' in March 2024, which has since increased to 72% in July 2024 (NHS England, 2024c). As more patients become aware they can access care at any time, the maximum number of calls may be expected to decrease further, reducing difficulties in reaching the practice and enhancing telephone access.

More than one in five patients across England want to be able to book appointments in advance for care requests that are not urgent (Nuffield Trust, 2023). After implementing Rapid Health's Smart Triage, patients received pre-bookable appointments an average of nine days faster than in the pre-implementation period (Figure 27). For on the day appointments, patients received appointments on average 4.6 hours after requesting care, compared to 3 hours pre-implementation. This could be due to multiple reasons, such as patients being offered several appointment times and selecting the most convenience time rather than the first available time. Longer times data analysis is recommended to document the different factors driving this change. The quicker access to pre-bookable appointments shows improved care availability for less urgent needs, reducing the risk of patient deterioration and ensuring timely care (Care Quality Commission, 2023).

The demographics of patients completing requests via Rapid Health's Smart Triage in the post-implementation period in terms of age and registered disability was representative of the overall registered patient population. This consistency implies that Rapid Health's Smart Triage did not negatively impact access to care for these groups, maintaining equitable access across different patient demographics. Further, Rapid Health's Smart Triage allowed patients to request care at any time of day rather than limiting access to patients able to request care at 8am, hence avoiding excluding patients unable to contact their practice at that time (such as shift workers for instance) and providing a more equitable service. This supports the ambition of ensuring that all patients, regardless of their demographic characteristics, have an opportunity to receive timely and appropriate access to GP services (The King's Fund, 2024).

Rapid Health has led to improved access to care at The Groves Medical Centre, and facilitated the implementation of the *Modern General Practice Access* model by:

- Allowing for equitable access to care, evidenced by the similar demographic proportions of patients accessing care compared to the wider population of registered patients.

- Enabling patients to submit their own care requests online at any time of the day, with an increase from 12% to 82%, thus addressing an unmet need for patients who had difficulty getting through to the practice via telephone or in person.
- Automating the triage and booking of appointments, thus freeing up capacity patients who request care over the phone or in person. It can be seen through the reduction in telephone call concurrency and the reduction in volume of phone calls in the post implementation.
- Faster access to pre-bookable appointments (from an average of 13 days in the pre-implementation period to 4 days in the post-implementation period).

Does Rapid Health's Smart Triage lead to better management of demand and capacity?

Primary care

When patients phoned the practice to request care following Rapid Health's Smart Triage implementation, they could choose to receive a link to complete an appointment request themselves online. Care navigators answered fewer telephone calls overall following Rapid Health's Smart Triage implementation (9,338 calls compared to 12,828 calls; Figure 34), particularly during the '*8am rush*' (approximately 28 answered calls in February 2024, compared to 53 answered calls in June 2023; Figure 37). In addition, 91% of appointment requests resulted in an automated triage and appointment booking (Figure 16) and 95% of admin requests were automatically triaged. This released capacity for care navigators to focus on more complex and urgent cases, as well as supporting patients with requesting care via Rapid Health's Smart Triage when needed.

According to NHS Digital (2024a), 44% of all appointments take place on the same day they are requested across England. Prioritising on the day access to this extent impacts the ability for GP practices to offer appointments for routine appointments as more slots are held for urgent and same day booking, this can also lead to long waiting for routine appointments (NHS Confederation, 2024). Automatic triaging through Rapid Health's Smart Triage helps to reduce pressure placed on GP practices whilst ensuring that urgent cases are prioritised and addressed promptly and non-urgent cases are scheduled appropriately. During the study period, 19% of requests via Rapid Health's Smart Triage were triaged as requiring on the day care (Figure 20). Of these, 68% received an appointment slot on the day of the request and a further 7% received an appointment slot by the next day of the request (Figure 21). Of the appointments held, there was a statistically significant increase in the proportion of pre-booked appointments in the post-implementation period, increasing from 48% to 85% (Figure 26). Patients had to wait on average nine less days in the post implementation period to attend a pre-bookable appointment (from a 13 day wait to a 4 day wait; Figure 27). By triaging requests based on clinical need and level of urgency, Rapid Health's Smart Triage can balance the allocation of on the day and pre-bookable appointments to ensure that urgent requests are promptly addressed, whilst reducing waiting times for routine appointments.

The reduction in the proportion of attended on the day appointment slots from 52% to 15% suggests that the duty team at The Groves Medical Centre could now effectively manage urgent on the day demand, freeing up GPs to focus more on pre-bookable and routine care. This shift not only release capacity for GPs and other staff members conducting appointments, but it can also support more continuity of care as patients are offered to select the healthcare professionals delivering the appointment and may choose their GP. As 91% of care requests via Rapid Health's Smart Triage were automated (Figure 16), staff conducting appointments can also spend less time completing administration tasks related to this. With more time per patient, GPs can offer more comprehensive care, improving patient outcomes and satisfaction levels. Further, there were no clinical incidents or significant events that occurred during the post-implementation period, highlighting that the management of demand and capacity was appropriate. This strategic reallocation of resources optimises healthcare delivery, fostering stronger doctor-patient relationships and enhancing overall service efficiency at The Groves Medical Centre.

In 2023, 4.6% of all GP practice appointments were DNAs (NHS Digital, 2023). NHS England (2023) indicated that one reason for DNAs was patients' difficulty in taking time off work to attend appointments. When accounting for seasonal variation in activity, there was a 10% decrease when comparing the rate of DNAs from October 2022 to February 2023 with the post-implementation period (Figure 32). Drivers of DNA rates are multifactorial and although the evaluation established there was a significant difference after the implementation of Rapid Health's Smart Triage, this shows correlation not causality. Nevertheless, this is encouraging and future evaluations could assess whether the trend observed is confirmed in the long term.

Secondary care

Rapid Health's Smart Triage will inform a patient to attend A&E if they display extremely urgent symptoms in their care request. If the patient disagrees with the triage decision, they will be asked further questions to refine the assessment, and will either be offered an appointment at the practice or they will be asked to attend A&E. During the study period, 0.12% of requests via Rapid Health's Smart Triage were triaged to A&E and resulted in the patient stating that they would attend A&E (Figure 23). As this study could not obtain the same metric for the pre-implementation period at The Groves Medical Centre, the analysis calculated a nation-wide proxy metric, the number of A&E attendances and admissions out of the number of registered patients across England from October 2023 to February 2024. This rate is higher than that of The Groves Medical Centre at 0.7% (Figure 24), however as the metrics are not the same, this result should be interpreted carefully. A better comparison could be to examine the findings of Nguyen et al. (2022b), who explored the level of triage errors in digital symptom checkers in primary care and found that overtriage was observed in 13% to 19% of cases. Overtriage is defined as the inappropriate allocate of health care resources to individuals whose health care needs are less significant (Cook et al., 2001), for instance triage a patient request as an emergency instead of urgent. With a triage rate to A&E of 0.12%, Rapid Health's Smart Triage is able to avoid overtriage to secondary care, recommending A&E attendance when required and offering timely appointments at the practice for urgent and non-urgent requests. In addition, patients are encouraged to inform the practice if they attend A&E which enables the practice to check what happened and to follow-up on the patient's condition, thus supporting continuity of care.

When comparing the overall average rate of 111 calls to registered patients in October to February across 2020/21 and 2022/23 with the post-implementation period, the rate remained stable at 1.2%. It should be noted that 111 calls are driven by multiple factors. Despite this, it is encouraging to observe that there is no dramatic increase in 111 calls after Rapid Health's Smart Triage was implemented. This suggests that Rapid Health's Smart Triage supports effective management of demand and capacity in secondary care. This allows secondary care providers to focus resources on patients with more urgent care needs, improving overall healthcare efficiency and patient outcomes.

Rapid Health's Smart Triage has led to improved management of demand and capacity at The Groves Medical Centre and secondary care due to:

- 91% of appointment requests resulting in an automated triage and appointment booking, as well as 82% of appointments booked by patients online (compared to 12%). This released capacity allowed care navigators and the duty team to focus on more complex and urgent cases, as well as supporting patients requiring help to use Rapid Health's Smart Triage.
- 85% of appointments booked via Rapid Health's Smart Triage were face to face, an increase from the 53% for comparable slot types in the pre-implementation. This could be due to patients selecting face to face over phone appointments when given the choice, and it could also be driven by the practice '*slot mapping*' (e.g. clinical preferences when setting up the solution). Both reasons point to a better utilisation of clinical capacity, enabling staff members to focus on face to face patient-clinician interactions.
- Triaging patients based on clinical need, level of urgency, practice's preferences and available capacity, which enabled to reduce waiting times for pre-bookable appointments by nine days.
- Avoiding over triage to secondary care, 0.12% of requests via Rapid Health's Smart Triage signposted patients to A&E and resulted in the patient stating that they planned to attend A&E.

Does Rapid Health's Smart Triage lead to more sustainable staff working patterns?

Safe working in general practice (British Medical Association, 2024b) highlighted the need to reduce the number of appointments per session to facilitate the continuation of 15-minute appointments. In turn, this would allow GPs to spend the same amount of time per day tending to patients whilst allowing safe care delivery, in line with *Workload Control in General Practice: Ensuring Patient Safety Through Demand Management* (British Medical Association, 2018). Rapid Health's Smart Triage aims to facilitate the continuation of 15-minute appointments through need-based triage and allowing 91% of care requests to be automatically triaged. This not only supports the sustainability of staff working patterns by freeing clinical and non-clinical capacity and reducing the risk of burnout but also ensures

that GPs can deliver high-quality care, as they have adequate time to address each patient's needs thoroughly.

Medical receptionists balance a large number of tasks, resulting in a high cognitive load (Litchfield et al., 2022) and unsustainable staff working patterns. Rapid Health's Smart Triage lowered the proportion of telephone and in person requests care navigators handled which resulted in an attended appointment slot (85% pre-implementation compared to 18% post-implementation). Staff members also did not need to spend as much time allocating patient appointments, as 91% of appointments were allocated automatically (Figure 16). Lowering the number of tasks completed by medical receptionists/care navigators allowed for a release of capacity, hence allowing more sustainable staff working patterns overall as staff would now be able to handle a temporary increase in patients submitting care requests. This also meant that care navigators could spend longer completing requests via telephone or in person, although it is too early to know the extent to which this resulted in a time saving.

There were five fewer patient appointments per day following Rapid Health's Smart Triage implementation (Figure 25), which suggests that the number of appointments per session reduced, facilitating the continuation of 15-minute appointments. It should be noted that the number of appointments per day per staff member was unable to be identified, so this figure may vary by staff member. By reducing the number of appointments per day, GPs are less likely to experience burnout and have more time to provide safe, quality care during each interaction, facilitating the continuation of 15-minute appointments in line with *Safe working in general practice* (British Medical Association, 2024b). This change aligns with the ambition of creating a more manageable and sustainable workload for staff at The Groves Medical Centre, thus in time, enhancing overall job satisfaction and work-life balance to allow for a more stable and resilient workforce at The Groves Medical Centre.

Rapid Health's Smart Triage has led to more sustainable staff working patterns at The Groves Medical Centre, in line with *Workload Control in General Practice: Ensuring Patient Safety Through Demand Management* (British Medical Association, 2018):

- Reducing the number of patient contacts per day (from 335 to 330 per day for the whole practice, despite the winter pressures), resulting in GPs less likely to experience burnout and having more time to provide quality care during each patient interaction.
- Better utilisation of the range of healthcare professionals operating at the practice, whilst increasing the percentage of appointments delivered by GPs and nurses (from 8% to 12% and from 10% to 21% respectively).
- 7% of all requests made via Rapid Health's Smart Triage resulted in an on the day appointment, this is significantly lower than the national average of 44% (NHS Digital, 2024a). Such a high level of same day access can impact a practice's ability to offer routine non-urgent appointment and is at risk of not being driven by clinical needs but by system constraints. Rapid Health's Smart Triage helped to reduce

pressure whilst ensuring that urgent cases are prioritised and non-urgent cases are seen in a timely manner.

- Lowering the proportion of care requests that care navigators and the duty team handle as 91% patients received an appointment slot automatically, allowing medical receptionists to spend longer completing requests via telephone or in person.

Does Rapid Health's Smart Triage lead to an improved care experience for patients?

Care experience

Due to the low response rate of the patient survey and Friends and Family survey, it is important to consider the findings mentioned below as anecdotal. Further, the surveys also have limitations such as the findings being reliant on patients providing in-depth free-text responses around their booking experience and the patient survey being examined early on in the implementation of Rapid Health's Smart Triage.

Patients at the Groves Medical Centre transitioned from a traditional practice booking system (limited on the day appointments available at 8am on a '*first come, first served*' basis) to being able to use Rapid Health's Smart Triage autonomously to request care online at any time (24/7). As patients used the online platform to request care, there was a reduction in the proportion of patients attending an appointment who requested care in person or via telephone (88% to 18%), likely reducing the traffic for these methods. As a result, the number of telephone calls decreased from 12,828 calls to 9,388 calls and maximum telephone call concurrency decreased from 26 calls to 11 calls following Rapid Health's Smart Triage implementation (Figure 34; Figure 35). Further due to this, the average time taken from requesting to attending an appointment slot decreased by two days (across both on the day and pre-bookable appointments). The suggested improvement in accessibility and efficiency for booking appointments is likely to reduce patient frustration in the long term, as most patients can now request care online, and those calling the practice may experience shorter wait times. Despite this, these positive impacts were not reflected in the patient survey, which provided mixed feedback.

Indeed, difficulties in completing requests, which led to a stressful experience, were reported by 65% of patient survey respondents who felt that the option to choose their appointment date and time did not make booking less stressful following Rapid Health's Smart Triage implementation (Figure 53). Additionally, 73% disagreed that submitting admin or medical requests through Rapid Health's Smart Triage was easy (Figure 52), with free-text responses indicating that option boxes not listing all symptoms contributed to these difficulties. The respondents reported frustrations and low satisfaction levels could be attributed to the challenges associated with the transition to the new Rapid Health's Smart Triage booking system. It is important to note the survey's low response rate (20 responses over three months) and its timing (just under five months after the system went live) when interpreting the results. Changes in the care services often come with a learning curve and temporary perceived inefficiencies, which can affect how users perceive the overall ease

and effectiveness of the new process (Expert Panel on effective ways of investing in Health, 2019). Despite these challenges, nearly a quarter of patients (24%; Figure 52) found that selecting their own appointment slot reduced the stress associated with requesting care, and 20% reported that submitting care requests through Rapid Health's Smart Triage was easy (Figure 52). One patient mentioned that online requests were more convenient than waiting in a telephone queue. Additionally, patients who used online or in-person request methods generally reported higher satisfaction compared to those who relied on telephone requests.

When analysing the Friends and Family survey, the overall patient satisfaction levels remained relatively stable when comparing the pre-implementation and post-implementation periods; 85% of patients rated their experience as either '*very good*' or *'good'* before implementation, compared to 79% afterwards (Figure 49). Despite this, some patients reported difficulties accessing appointments through Rapid Health's Smart Triage, expecting immediate availability based on the previous system. As appointments are now prioritised by clinical need, so those requiring urgent care later in the day may have fewer options. Patients who expected on the day appointments but were not triaged as urgent might have reported a negative experience. Despite this, accurate triaging ensures appropriate and equitable care. This highlights the need for The Groves Medical Centre to engage with patients and explain that Rapid Health's Smart Triage prioritises clinical needs first, with preferred appointment times considered secondarily.

While some challenging feedback was received from the patient survey and the Friends and Family survey, it is important to consider this as anecdotal due to the low response rate. The Groves Medical Centre should monitor specific questions in the Friends and Family survey, particularly regarding booking ease and care experience, to ensure satisfaction remains stable, while also acknowledging the survey's limitations (such as the relevance of the findings being reliant on patients providing free-text responses specifically around their booking experience). Patient frustrations likely stem from misunderstandings about the new Rapid Health's Smart Triage system. The Groves Medical Centre should enhance patient education to clarify how the system works and may benefit from connecting with other practices using similar systems to improve communication strategies.

The average care navigator telephone call duration increased by 1 minute 26 seconds (Figure 36) and the number of telephone calls to the practice decreased by 3,491 calls on average each month (Figure 34) following Rapid Health's Smart Triage implementation. It is likely that staff spent longer on the phone to fill in the Rapid Health's Smart Triage questionnaire for patients requesting care via telephone. The increased time taken to complete the Rapid Health's Smart Triage form supports more accurate triaging whilst the decrease in telephone calls to the practice allows care navigators to have the capacity to manage longer call lengths, leading to better healthcare outcomes as patients receive care and advice specifically suited to their needs.

Rapid Health's Smart Triage automated 91% of requests, freeing up admin and clinical time (Figure 16). This time saved could have facilitated the transition to 15-minute appointments; consultation times remained 18 minutes long following Rapid Health's Smart Triage implementation (Figure 30), whilst there were five fewer appointments per day overall (Figure 25) in line with *Workload Control in General Practice: Ensuring Patient Safety*

Through Demand Management (British Medical Association, 2018). As a result, staff had more capacity to engage in longer, more meaningful conversations with patients, thereby enhancing the quality of care. Providing longer consultations to patients not only supports a more patient-centred approach but is also likely to improve the overall care experience.

Quality of care

Quality of care is the extent to which health services improve patient health outcomes. It is multifactorial, encompassing effectiveness, safety, and people-centeredness, while also being timely, equitable, integrated, efficient, and well-led to ensure all individuals receive high-quality care tailored to their needs (NHS England, 2021; World Health Organisation, n.d.). Therefore, quality of care is driven by various elements, many outside the remit of a triage and booking system.

Rapid Health's Smart Triage led to a greater proportion of patients who attended an appointment slot submitting their own requests online via Rapid Health's Smart Triage (Figure 28), which allowed care navigators to spend more time with patients both in person and on the phone to address their needs appropriately. Patients were also triaged based on urgency, enabling them to request care at any time of day and receive an appropriate appointment slot based on their symptoms. Rapid Health's Smart Triage also allowed the time between requesting care and receiving care to decrease by two days on average (across on the day and pre-bookable appointment). This resulted in fewer appointments per day, allowing consultation time to remain above 15 minutes without increasing the overall number of patient contacts, in line with the *Delivery plan for recovering access to primary care: update and actions for 2024/25* (NHS England, 2024b). This additional time enabled patients to discuss their needs thoroughly and staff to determine the correct treatment for each patient. Increased quality of care is crucial because it enhances patient outcomes, reduces the risk of complications, and fosters greater trust in the care provided by The Groves Medical Centre and wider NHS. Higher quality care likely leads to improved patient satisfaction levels; patients feel heard, valued, and properly treated. This not only benefits individual patients but also contributes to a more efficient and effective healthcare system overall.

Overall, 68% of red urgency requests via Rapid Health's Smart Triage were seen on the same day (Figure 21) and it took five hours from requesting to attending the appointment slot for the red requests that resulted in a held appointment. Here, all red urgency requests seen the next day would have been contacted by the practice to ensure they were happy to be offered an appointment at a later date. This allows patients who require urgent care to be seen as soon as possible due to prioritising patients based on their urgency, resulting in safer care for patients. In turn, this improves the overall care experience for patients as they are able to be seen at an appropriate time, avoiding the risk of patient deterioration due to appropriate, timely care.

Appointment duration was examined through consultation times provided by The Groves Medical Centre. Despite this, it should be noted that these times may be inaccurate as some staff may close the consultation on EMIS after the consultation has finished and they are completing the patient notes, so there are inaccuracies as the EMIS session can stay open

after an appointment has ended. Consultation times before the move to 15-minute appointments were 17 minutes long on average, which increased to 19 minutes long following the move before Rapid Health's Smart Triage was implemented. After Rapid Health's Smart Triage implementation, consultation times were 18 minutes long. Although consultation time remained similar following the move to 15-minute appointments regardless of Rapid Health's Smart Triage implementation, patients who attended an appointment slot were able to receive care faster on average following its implementation (Figure 27). This means that Rapid Health's Smart Triage facilitated the continuation of 15-minute appointments through streamlining the care pathway, allowing care to be received faster than before without increasing the number of patient contacts per day. This improvement in care likely resulted in a higher quality of care, with a lower chance of patient deterioration. Consequently, patients experienced a more efficient and satisfactory care experience.

The *GP Patient Survey* (NHS England, 2023b) revealed that 82% of patients before Rapid Health's Smart Triage was implemented felt their healthcare professional at The Groves Medical Centre gave them sufficient time, indicating general satisfaction with appointment length. Provided that the consultation times were accurate, this consistency suggests that patients continue to be satisfied with the duration of their appointments post-implementation of Rapid Health's Smart Triage.

The evaluation relied on qualitative insights to assess the perceived quality of patient care post-implementation of Rapid Health's Smart Triage. This only provides insight regarding the perceived quality of care provided. Staff opinions were mixed regarding whether Rapid Health's Smart Triage facilitated high-quality patient care; 76% of staff responded with '*neither agree nor disagree*' to the statement "*Rapid Health helps to facilitate high quality patient care*" (Figure 46). This neutrality could be due to the survey being conducted only four months post-implementation, where staff may have been responding to statements in terms of the impact of change, rather than due to Rapid Health's Smart Triage itself. Staff could also view the quality of care as multifactorial; other factors such as the staff member who provided them with care is also likely to impact quality of care. Relying on perceived quality of care alone may not provide the most accurate picture due to change impact within the pathway. Future evaluations should seek to examine perceived quality of care a year on from implementation to minimise the likelihood of staff responding to the survey based on change impact.

Overall, Rapid Health's Smart Triage allowed patients to spend longer interacting with care navigators and medical staff conducting appointments, meaning they had time to express their needs. From this, staff could understand the care required and patients were appropriately triaged to the correct area. This triaging allowed patients to receive an appointment faster and facilitated the continuation of 15-minute appointments in line with the *Delivery plan for recovering access to primary care: update and actions for 2024/25* (NHS England, 2024b). Shorter queue times and increased contact time with staff at The Groves Medical Centre improved the quality of patient care by minimising the chance of patient deterioration and enhancing the overall patient experience. By having more time to discuss their symptoms, concerns, and treatment options, patients at The Groves Medical Centre can receive more personalised and thorough care.

Patient care experience encompasses many dimensions, some outside of the remit of Rapid Health's Smart Triage, this should be acknowledged when assessing whether Rapid Health's Smart Triage led to an improved care experience.

- The improved access to care coupled with increased patient's choice (of time of appointment, of type of appointments and of healthcare professionals) is likely to positively impact patient care experience in the long term.
- Patients receiving an appointment slot much quicker, reducing wait times, and ensuring patients receive timely access to care.
- The continuation of 15-minute appointments, allowing patients to have more meaningful discussions around their symptoms, concerns, and treatment options, can also support an improvement in care experience.
- The low response rate to the patient survey (20 surveys out of 30,985 appointments attended in the post implementation) means that the views represented, whilst challenging and reflective of some patients' experience, can only be seen as anecdotal evidence and not representative of the opinions of most patients. Despite this, they do illustrate the need to communicate and accompany patients as general practice evolves, so patients can understand why system transformation takes place and can have expectations aligned with the *Modern General Practice Access* model (NHS England, 2023a).

Does Rapid Health's Smart Triage lead to an increase in staff satisfaction?

Quantitative findings suggested that Rapid Health's Smart Triage would likely improve staff satisfaction by reducing the number of patient contacts and facilitating the continuation of 15-minute appointments, allowing for longer, more meaningful patient interactions (British Medical Association, 2018, 2024b). Further, care navigators completed fewer tasks, particularly during the '*8am rush*', lowering the cognitive workload on care navigators. Despite this, qualitative results did not fully align with these expectations. Staff surveys indicated that 48% were neutral and 22% were dissatisfied with the system (Figure 40), with a NPS of -64 (Figure 45). Staff conducting patient appointments provided varying opinions to survey statements around overall satisfaction (Figure 40), having time to manage complex patients (Figure 48), and impact on workload (Figure 43). This discrepancy may reflect initial resistance and external factors such as winter pressures. Future research should conduct staff surveys a year or more on from Rapid Health's Smart Triage implementation at The Groves Medical Centre to examine the true satisfaction levels once the pathway becomes more integrated.

As with the patient survey, the staff survey findings should be considered alongside its limitations. For example, the staff survey was conducted early in the implementation of Rapid Health's Smart Triage, so staff may have been responding to the change impact of the pathway rather than Rapid Health's Smart Triage itself. The survey was also conducted during the winter months, a notoriously busy time for primary care, which would have

impacted the feedback received. It is essential to consider the limitations as findings may vary should future evaluations mitigate these limitations. Future evaluations should seek to explore how Rapid Health's Smart Triage impacts staff satisfaction levels a year after Rapid Health's Smart Triage was implemented.

A discrepancy between responses to statements was identified in the staff survey. Here, 67% of care navigators noted that Rapid Health's Smart Triage led to a positive impact on their workload (Figure 43), however the same proportion of care navigators also noted workload as a challenge to Rapid Health's Smart Triage (Figure 39). It could be suggested that Rapid Health's Smart Triage led to a lower staff workload following its implementation, however workload may still be high following the after-effects of the previous pathway. For example, the time of day with the most frequency of calls was still 8am following Rapid Health's Smart Triage implementation (Figure 37), even though patients could now successfully request care by telephone at any time within practice hours. It is anticipated that the workload of the reception staff will become more balanced throughout the day as more patients realise they can access care at any time, leading to greater staff satisfaction levels, which can increase job performance, reduce turnover, and enhance overall patient experiences.

Staff identified several benefits of Rapid Health's Smart Triage, including ease of access for patients (43%), ease of use for staff (30%), and efficiency (30%; Figure 38). Additionally, over half of the staff surveyed reported they could find the information they needed (57%; Figure 42) and considered Rapid Health's Smart Triage easy to use (57%; Figure 41). These positive aspects suggest that the improved functionality of Rapid Health's Smart Triage compared to the previous pathway could be identified immediately after implementation, which could have contributed positively to the satisfaction levels observed. Increased functionality leads to greater staff satisfaction by streamlining workflows, reducing the time and effort required to complete tasks, and minimising frustrations with inefficient systems. This improved efficiency allows staff to focus more on meaningful work, reduces job-related stress, and enhances their overall sense of competence and accomplishment in their roles.

To further reduce the time care navigators spend supporting patients filling in their Rapid Health's Smart Triage questionnaire, ways of encouraging patients to independently book their appointments online should be identified. This could be completed by offering training sessions to patients who may not understand how to use Rapid Health's Smart Triage or including a video tutorial on the practice website. From this, a greater proportion of patients may feel more confident requesting care online. This could help reduce receptionist staff stress levels through alleviating the number of hours they spend completing phone tasks, thereby improving their overall job satisfaction and efficiency.

Staff satisfaction is multifactorial and will depend on many parameters outside of Rapid Health Smart Triage's control such as sense of belonging, autonomy, workload and pay package. Although the staff survey presented mixed views on Rapid Health's Smart Triage, quantitative insights showed Rapid Health released staff time which can impact staff workload and in turn staff satisfaction. This can be seen in:

- The volume of automated requests after the implementation of Rapid Health's Smart Triage, both for appointment booking and admin tasks (total of 8,377 in the post implementation period), thus releasing time for the care navigators and duty team.
- Successful move to 15-minute appointments at the practice, which likely led to staff having more meaningful conversations with patients and could positively impact their job satisfaction. To note the move to 15-minute appointments took place before the launch of Rapid Health's Smart Triage but it was maintained during the post implementation period, despite the winter pressures.
- Survey responses did not reflect the expected increase in satisfaction, likely due to staff responding to statements based on the impact of change they experienced, rather than the Rapid Health's Smart Triage solution itself.

7. Recommendations

7.1. Engage with users regularly

To increase the uptake of online appointment requests and reduce the reliance on telephone and in person requests, it is crucial to improve the usability of Rapid Health's Smart Triage if possible. This can be achieved by involving patients in the design and continuous refinement of the system. Conducting regular co-design sessions with patients will help capture their perspectives and identify areas for improvement. By prioritising user-centred design and regularly refreshing the system based on patient feedback, Rapid Health's Smart Triage can become more intuitive and accessible. This approach is aimed at boosting patient engagement with the online system, enhancing digital literacy, and ultimately reducing the workload on care navigators, thereby optimising practice operations.

7.2. Increase patient awareness around the aims of Rapid Health's Smart Triage

To enhance accessibility and patient choice, it is crucial to increase awareness around the aims of Rapid Health's Smart Triage. Patients should be informed that while Rapid Health's Smart Triage facilitates the appointment booking process, it does not guarantee immediate appointment slots. Appointments are scheduled based on clinical need and availability, which may not always align with patient preferences. Clear communication regarding the purpose of Rapid Health's Smart Triage can manage expectations and improve the overall care experience. By understanding that appointment timing is determined by clinical priority,

patients can better appreciate the system's role in providing equitable care. This could be completed by explaining the aims of Rapid Health’s Smart Triage within the proposed Rapid Health’s Smart Triage video tutorials and in-person training sessions.

7.3. Evaluate Rapid Health’s Smart Triage navigation settings

The Groves Medical Centre should regularly review and evaluate the appropriateness of their current navigation settings within Rapid Health’s Smart Triage. Regular calibration of these settings can help manage demand and capacity more effectively, ensuring that appointments are prioritised based on clinical need and optimising the resources of the practice.

7.4. Further evidence the reduction in A&E visits

It is recommended to explore further the evidence indicating a reduction in A&E visits, as this could be a key indicator of the effectiveness and value of Rapid Health’s Smart Triage. By conducting a deeper analysis and highlighting this trend, the system's impact on diverting patients from emergency services to more appropriate care pathways could be demonstrated further. Emphasising this reduction not only underscores the system's efficiency but also its potential to alleviate pressure on A&E departments, which is a significant benefit.

7.5. Continue to collect staff feedback on Rapid Health’s Smart Triage

Given the mixed feedback from staff regarding Rapid Health’s Smart Triage, it is important to delve deeper into the process-related challenges they are experiencing. To better understand why Rapid Health’s Smart Triage may not be working as intended, or why some requests take longer to complete, a thorough analysis should be conducted. This could involve qualitative research, such as interviews or focus groups with staff, to identify specific barriers and pain points in the system. Additionally, examining the underlying reasons for these delays or inefficiencies will provide valuable insights into how Rapid Health’s Smart Triage can be optimised. By addressing these issues, the practice can work towards improving the effectiveness of Rapid Health’s Smart Triage and enhancing the overall efficiency of the appointment booking process.

8. Conclusion

In conclusion, the implementation of Rapid Health's Smart Triage at The Groves Medical Centre has positively impacted access to care, demand management, and staff workload, facilitating implementation of the *Modern General Practice Access* model. Rapid Health's Smart Triage has resulted in more equitable and timely access to care, allowing patients to submit requests online and reduce the reliance on telephone bookings. This shift has not only improved patient access but also enhanced the efficiency of care delivery by automating triage and appointment booking, thus freeing up capacity for more complex cases.

The use of Rapid Health's Smart Triage has facilitated better management of demand and capacity, evidenced by the increase in online appointment bookings and the reduction in waiting times for pre-bookable appointments. Automating the triage and booking of appointments frees up capacity for patients who must request care over the phone or in person, addressing an unmet need for those who previously experienced difficulty accessing care via these methods. The system has also supported the avoidance of unnecessary secondary care referrals, ensuring that urgent cases are prioritised while maintaining a balance between urgent and routine care.

From a staff perspective, Rapid Health's Smart Triage has contributed to more sustainable working patterns, helping to manage workload effectively and reducing the risk of burnout. The reduction in daily patient contacts, coupled with the ability to handle requests more efficiently, has allowed healthcare professionals to spend more time with patients, thereby improving the quality of care provided.

Despite this, while the continuation of 15-minute appointments and the improvements in access and demand management suggest potential benefits to both patient care experience and staff satisfaction, these outcomes were not yet substantiated by patient and staff feedback. The limited response to the patient survey and the mixed staff survey results indicate that further communication and support may be needed to align expectations with the ongoing system transformation.

Notwithstanding the winter pressures and the timing of the evaluation (only capturing the first four months of implementation), Rapid Health's Smart Triage has shown positive outcomes for The Groves Medical Centre by enhancing access to care, managing demand, and supporting sustainable workload, but continued monitoring and engagement with both patients and staff are essential to ensure these benefits are fully realised and understood.

9. References

Beech, J., Fraser, C., Gardner, T., Buzelli, L., Williamson, S., & Alderwick, H. (2023). *Stressed and overworked: What the Commonwealth Fund's 2022 International Health Policy Survey of Primary Care Physicians in 10 Countries means for the UK*. The Health Foundation. https://doi.org/10.37829/HF-2023-P12

Bostock. (2022). *General practice losing doctors to early retirement faster than hospitals*. https://www.gponline.com/article/1830230

British Medical Association. (2018). *Workload Control in General Practice: Ensuring Patient Safety Through Demand Management*. https://www.bma.org.uk/media/1145/workload-control-general-practice-mar2018-1.pdf

British Medical Association. (2024a). *Pressures in general practice data analysis*. The British Medical Association Is the Trade Union and Professional Body for Doctors in the UK. https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/pressures-in-general-practice-data-analysis

British Medical Association. (2024b). *Safe working in general practice*. The British Medical Association Is the Trade Union and Professional Body for Doctors in the UK. https://www.bma.org.uk/advice-and-support/gp-practices/managing-workload/safe-working-in-general-practice

Campbell, D. (2024, July 24). Online GP consultations have led to harm and death, investigation finds. *The Guardian*. https://www.theguardian.com/society/article/2024/jul/25/online-gp-consultations-have-led-to-harm-and-death-investigation-finds

Care Quality Commission. (2023). *Access to care*. https://www.cqc.org.uk/publications/major-report/state-care/2022-2023/access-to-care

Care Quality Commission. (2024). *The Groves Medical Centre*. https://www.cqc.org.uk/location/1-552497644?referer=widget3

Cook, C. H., Muscarella, P., Praba, A. C., Melvin, W. S., & Martin, L. C. (2001). Reducing overtriage without compromising outcomes in trauma patients. *Archives of Surgery (Chicago, Ill.: 1960)*, *136*(7), 752–756. https://doi.org/10.1001/archsurg.136.7.752

Department of Health and Social Care. (2023, May 9). *How we're making it easier to get an NHS GP appointment*. https://healthmedia.blog.gov.uk/2023/05/09/how-were-making-it-easier-to-get-an-nhs-gp-appointment/

Expert Panel on effective ways of investing in Health. (2019). *Assessing the impact of digital transformation of health services*. https://health.ec.europa.eu/system/files/2019-11/022_digitaltransformation_en_0.pdf

Fuller. (2022). *Next steps for integrating primary care: Fuller stocktake report*. https://www.england.nhs.uk/publication/next-steps-for-integrating-primary-care-fuller-stocktake-report/

Ipsos. (2021, October 8). *Essential Digital Skills UK 2021*. https://www.ipsos.com/en-uk/essential-digital-skills-uk-2021

Lind, S. (2024, July 25). NHSE told to evaluate patient safety risk of online consultation tools used by GPs. *Pulse Today*. https://www.pulsetoday.co.uk/news/technology/nhse-told-to-evaluate-patient-safety-risk-of-online-consultation-tools-used-by-gps/

Litchfield, I., Burrows, M., Gale, N., & Greenfield, S. (2022). Understanding the invisible workforce: Lessons for general practice from a survey of receptionists. *BMC Primary Care*, *23*(1), 230. https://doi.org/10.1186/s12875-022-01842-4

Malby, B., Downham, N., & Hufflett, T. (2018). *Lessons from London's Primary Care Quality Academies*.

Nguyen, H., Meczner, A., Burslam-Dawe, K., & Hayhoe, B. (2022a). Triage Errors in Primary and Pre–Primary Care. *Journal of Medical Internet Research*, *24*(6), e37209. https://doi.org/10.2196/37209

Nguyen, H., Meczner, A., Burslam-Dawe, K., & Hayhoe, B. (2022b). Triage Errors in Primary and Pre–Primary Care. *Journal of Medical Internet Research*, *24*(6), e37209. https://doi.org/10.2196/37209

NHS. (2018, August 14). *Friends and Family Test (FFT)*. Nhs.Uk. https://www.nhs.uk/using-the-nhs/about-the-nhs/friends-and-family-test-fft/

NHS Confederation. (2024). *Is it impossible to see a GP?* https://www.nhsconfed.org/articles/it-impossible-see-gp

NHS Digital. (2024a). *Appointments in General Practice*. NHS England Digital. https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice

NHS Digital. (2024b). *Appointments in General Practice, May 2024*. NHS England Digital. https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice/may-2024

NHS Digital. (2024c). *Patients Registered at a GP Practice*. NHS Digital. https://digital.nhs.uk/data-and-information/publications/statistical/patients-registered-at-a-gp-practice

NHS Digital. (2024d). *Patients Registered at a GP Practice, June 2024*. NHS England Digital. https://digital.nhs.uk/data-and-information/publications/statistical/patients-registered-at-a-gp-practice/june-2024

NHS England. (n.d.-a). *Modern general practice model*. Retrieved 24 September 2024, from https://www.england.nhs.uk/gp/national-general-practice-improvement-programme/modern-general-practice-model/

NHS England. (n.d.-b). *Statistical process control tool*. Retrieved 27 June 2024, from https://www.england.nhs.uk/statistical-process-control-tool/

NHS England. (2019). *600 GP hours released a year after reducing inappropriate appointments – Chiswick Health Practice, London*. https://www.england.nhs.uk/gp/case-studies/600-gp-hours-released-a-year-after-reducing-inappropriate-appointments-chiswick-health-practice-london/

NHS England. (2021). *A shared commitment to quality for those working in health and care systems*. https://www.england.nhs.uk/wp-content/uploads/2021/04/nqb-refreshed-shared-commitment-to-quality.pdf

NHS England. (2023a). *Delivery plan for recovering access to primary care*. https://www.england.nhs.uk/wp-content/uploads/2023/05/PRN00283-delivery-plan-for-recovering-access-to-primary-care-may-2023.pdf

NHS England. (2023b). *GP Patient Survey 2023*. https://www.england.nhs.uk/statistics/2023/07/13/gp-patient-survey-2023/

NHS England. (2023c). *Reducing did not attends (DNAs) in outpatient services*. https://www.england.nhs.uk/long-read/reducing-did-not-attends-dnas-in-outpatient-services/

NHS England. (2024a). *Arrangements for the GP contract in 2024/25*. https://www.england.nhs.uk/long-read/arrangements-for-the-gp-contract-in-2024-25/

NHS England. (2024b). *Delivery plan for recovering access to primary care: Update and actions for 2024/25*. https://www.england.nhs.uk/long-read/delivery-plan-for-recovering-access-to-primary-care-update-and-actions-for-2024-25/

NHS England. (2024c). *Friends and Family Test data*. https://www.england.nhs.uk/fft/friends-and-family-test-data/

NHS England. (2024d). *GP Patient Survey*. https://www.gp-patient.co.uk/patientexperiences?practicecode=H84016

North West London ICS. (n.d.). *Same day access to a GP*. Retrieved 14 July 2024, from https://www.brenticp.nhs.uk/same-day-access-gp

Nuffield Trust. (2023). *How long are patients waiting for a GP appointment in England?* Nuffield Trust. https://www.nuffieldtrust.org.uk/news-item/how-long-are-patients-waiting-for-a-gp-appointment-in-england

Office for Health Improvement and Disparities. (2024). *National General Practice Profiles*. https://fingertips.phe.org.uk/profile/general-practice/data#page/12/gid/2000005/pat/204/ati/7/are/H84016/iid/93468/age/28/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1

Philips, S., Ede, R., & Landau, D. (2022). *A proposal to reform general practice and enable digital healthcare at scale*. https://policyexchange.org.uk/wp-content/uploads/2022/04/At-Your-Service.pdf

Rapid Health. (2023). *Smart Triage*. https://www.rapidhealth.ai/st

Rapid Health. (2024). *Smarter Primary Care*. https://www.rapidhealth.ai/smarter-primary-care

Shi, L. (2012). The Impact of Primary Care: A Focused Review. *Scientifica*, *2012*(1), 432892. https://doi.org/10.6064/2012/432892

Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of Primary Care to Health Systems and Health. *The Milbank Quarterly*, *83*(3), 457–502. https://doi.org/10.1111/j.1468-0009.2005.00409.x

The King's Fund. (2024). *Poverty Taking A Heavy Toll On NHS Services*. The King's Fund. https://www.kingsfund.org.uk/insight-and-analysis/press-releases/poverty-health-nhs-services

World Health Organisation. (n.d.). *Quality of care*. Retrieved 16 August 2024, from https://www.who.int/health-topics/quality-of-care

10.Appendices

10.1.Appendix A: Logic model workshop

Rapid Health: Logic model

Unity Insights conducted a logic model workshop to understand the overarching themes associated with the Rapid Health solution. Clinicians who had experience with using Rapid Health in The Groves Medical Centre were invited to share their thoughts and opinions of the solution. The table below provides a summary of the discussions of the workshop to understand the impacts, outcomes, and data sources for patients, staff, the system, and the public who are likely to be affected by Rapid Health.

	Themes	Impacts	Outcomes	Metrics and data collection
Patients	Improved care experience	• Increased satisfaction levels • Decrease in anxiety levels • Improved clinician / patient relationship • Improved understanding of management plan • Improved access to care	• Improved continuity of care • Ability to dedicate more appointment time to dialogue rather than medical history • Reduced wait times for phone calls	Qualitative data: • Statement: My overall care experience has improved now I can book appointments through Rapid Health [patient surveys] • Statement: Having the ability to select appointment day and time has made the experience of booking an appointment less stressful [patient surveys] • Perceived ability to dedicate more appointment time to dialogue rather than medical history [staff surveys] Quantitative data: • Number of new patient registrations and deductions since Rapid Health [The Groves Medical Centre] • Percentage of appointments booked outside of GP opening times [The Groves Medical Centre] • Percentage of appointments booked in advance (not an '*on the day*' appointment) [The Groves Medical Centre] • How many patients chose a specific doctor [Rapid Health] • Number of clinical requests that did not have an appointment before and after Rapid Health implementation [Rapid Health and The Groves Medical Centre] • Number of appointments booked by the reception team before and after Rapid Health implementation [The Groves Medical Centre] • Number of answered phone calls [The Groves Medical Centre] • Number of missed phone calls [The Groves Medical Centre] • Number of times patients hang up whilst on the phone to the practice [The Groves Medical Centre] • Number of people waiting on the phone at peak times [The Groves Medical Centre] • Monthly Did Not Attend appointment rates before and after Rapid Health implementation [The Groves Medical Centre]

Rapid Health: Logic model

	Themes	Impacts	Outcomes	Metrics and data collection
Patients	Improved quality of care	• 24/7 access to triage and appointment booking • Triaged to the correct area immediately	• Patients receive timely treatment • Reduction in patient deterioration	Quantitative data: • Number of people waiting on the phone [The Groves Medical Centre] • Triage times [The Groves Medical Centre] • Number of patients who required a phone call appointment before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who required a face-to-face appointment before and after Rapid Health implementation [The Groves Medical Centre] • Breakdown of appointments conducted by practice roles before and after Rapid Health [Rapid Health; list of roles provided by The Groves Medical Centre] • Number of hours from practice opening time taken for '*on the day*' appointments to be filled before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who required an appointment but told to come back another day or sent elsewhere before and after Rapid Health implementation [The Groves Medical Centre] • Time taken from submitting an appointment request to receiving an appointment time before and after Rapid Health times [The Groves Medical Centre] • Number of patients requesting an appointment with complex needs [Rapid Health] • Number of patients requesting care outside of opening hours [Rapid Health] • Number of A&E attendances and admissions [The Groves Medical Centre ICB data] • Number of 111 calls [The Groves Medical Centre ICB data] • Number of patients receiving out of hours care before and after Rapid Health [The Groves Medical Centre ICB data]

Rapid Health: Logic model

	Themes	Impacts	Outcomes	Metrics and data collection
Staff	Increased staff satisfaction	• Improved staff satisfaction • Improved staff job retention • Reduced decision fatigue	• Less time spent triaging patients and booking appointments for non-clinical staff • Aids decision making due to populated patient history prior to patient appointment	Qualitative data: • Satisfaction levels [staff surveys] • Impact of a move to 15-minute appointments in terms of satisfaction levels and working environment [staff surveys] • Likelihood of staff retention due to Rapid Health [staff surveys] • Perceived number of patients who required another appointment [staff surveys] • How appointments were booked [Friends and family survey] Quantitative data: • Staff turnover before and after Rapid Health implementation by role [The Groves Medical Centre] • Sick leave before and after Rapid Health implementation by role [The Groves Medical Centre] • Number of patients seen by a GP in one week before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who book appointments by phone before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who attend phone, face-to-face, and online appointments before and after Rapid Health implementation [The Groves Medical Centre]
	More sustainable working patterns	• Move from a 10-minute to a 15-minute GP appointment • Increase utilisation of multi-disciplinary teams (MDTs) and Allied Health Professionals (AHPs)	• Reduction in tasks related to booking patient appointments for non-clinical staff • More time for non-clinical staff to complete other tasks • More GP staff time available for patient care or admin tasks (complete patient notes) • Ability for GPs to handle more complex patients	Qualitative data: • Perception of the ability to have time to manage complex patients [staff surveys] Quantitative data: • Amount of time staff are allocated to each task, including admin time [The Groves Medical Centre staff rota data] • Number of patients appointment requests triaged to other healthcare professionals rather than a GP before and after Rapid Health implementation[The Groves Medical Centre] • Number of patients requiring another appointment within two weeks of their first appointments (not specifying causes) before and after Rapid Health [The Groves Medical Centre] • Patient consultation time [The Groves Medical Centre] • Time taken for non-clinical staff to complete Rapid Health appointment request [Rapid Health]

Rapid Health: Logic model

	Themes	Impacts	Outcomes	Metrics and data collection
System	Better management of demand and capacity in primary care	• Streamlined patient booking system • Allocation led by clinical needs rather than on a first come first serve basis • Better use of resources	• Appropriate allocation to receive on the day care when they require • Reduction in Did Not Attend appointments (DNAs) • Reduction in number of contacts per patient • Increased efficiencies in booking patient appointments • Increased efficiency in patients receiving treatment	Quantitative data: • Time taken to receive a pre-bookable appointment before and after Rapid Health implementation [The Groves Medical Centre] • Number of touch points from appointment request to appointment before and after Rapid Health implementation [The Groves Medical Centre] • Number of SMS messages sent to patients before and after Rapid Health implementation [The Groves Medical Centre] • Amount of time staff are allocated to each task before and after Rapid Health implementation [The Groves Medical Centre staff rota data] • Monthly Did Not Attend appointment rates before and after Rapid Health implementation [The Groves Medical Centre]
	Releasing capacity on community and secondary care	• Reduction in avoidable appointments • Better use of resources	• Reduction in appointments in out-of-hour care • Reduction in attendance to A&E • Increased efficiency in patients receiving treatment	Quantitative data: • Number of A&E attendances and admissions [The Groves Medical Centre ICB data] • Number of 111 calls [The Groves Medical Centre ICB data] • Number of patients requesting out of hours care [The Groves Medical Centre ICB data]

Rapid Health: Logic model

	Themes	Impacts	Outcomes	Metrics and data collection
Public	Improved access to care	• Ensuring digitally assisted patients can access the practice • Increased ease of booking appointments	• Patients are able access to care and treatment more easily	Qualitative data: • Perceptions of patient equality [staff surveys] • Ease of appointment booking [patient surveys] Quantitative data: • Number of A&E admissions before and after Rapid Health implementation [The Groves Medical Centre ICB data] • Number of 111 calls before and after Rapid Health implementation [The Groves Medical Centre ICB data] • Number of patients receiving out-of-hours care before and after Rapid Health implementation [The Groves Medical Centre ICB data] • Number of patients booking appointments in out-of-hour times before and after Rapid Health implementation [Rapid Health] • Number of patients who require face to face care before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who require over the phone care before and after Rapid Health implementation [The Groves Medical Centre] • Number of patients who can be allocated a pre-bookable appointment before and after Rapid Health implementation [Rapid Health]

10.2.Appendix B: Quantitative methodology continued

This section depicts the datasets used within the quantitative analysis (Table 4).

Table 4: Sources used within the quantitative analysis and their time periods.

Dataset source	Time period
Requests via Rapid Health's Smart Triage data	
Rapid Health	30/10/2023 – 29/02/2024
Appointment slots data	
The Groves Medical Centre	29/06/2023 – 29/02/2024
Rapid Health	30/10/2023 – 29/02/2024
DNA data	
The Groves Medical Centre	29/06/2023 – 29/02/2024
NHS Digital	29/06/2023 – 29/02/2024
A&E attendances and admissions data	
NHS Digital	29/06/2023 – 29/02/2024
111 call data	
The Groves Medical Centre	01/11/2020 – 28/02/2021 01/11/2021 – 28/02/2022 01/11/2022 – 28/02/2023 01/11/2023 – 29/10/2023 01/11/2023 – 29/02/2024
NHS Digital	29/06/2023 – 29/02/2024
Telephone call data	
The Groves Medical Centre	30/10/2022 – 28/02/2023

	29/06/2023 – 29/10/2023 30/10/2023 – 29/02/2024
SMS data	
The Groves Medical Centre	01/08/2023 – 29/02/2024
Staff turnover data	
The Groves Medical Centre	29/06/2023 – 29/02/2024
Work hours data	
The Groves Medical Centre	29/06/2023 – 29/02/2024

Data sources continued

The Groves Medical Centre

STAFF ROTA DATA

The Groves Medical Centre provided one randomly selected week of staff rota data from the pre- and post-implementation periods respectively. The number of hours each staff member spent for each task noted in the rota was summed to understand the amount of time spent on tasks in the practice. Tasks included:

- **Admin:** Administration tasks such as calling in patients on certain disease registers for reviews or processing prescription requests.
- **Breaks / annual leave:** Short rests during work and extended holiday time.
- **Phones:** Answering telephone calls to the practice.
- **Scanning:** Scanning documents received by post.
- **Reception:** The receptionist sitting at reception and tending to the front desk.
- **Rapid Health:** Tending to the Rapid Health inbox.

It should be noted that staff rota data for the pre-implementation period contained tasks related to Rapid Health's Smart Triage due to its soft-launch before its official implementation date of 30th October 2023 (Section 5.1). Staff rota data before the Rapid Health's Smart Triage soft launch was unable to be provided by The Groves Medical Centre.

SMS

The total number of SMS messages related to patient appointments was provided by month from The Groves Medical Centre. This data was only available from August 2023 onwards. Hence, data from the pre-implementation period was collected from 1st August 2023 to 29th October 2023. Data from the post-implementation period was collected from 30th October 2023 to 29th February 2024. The SMS data was analysed by month and by each implementation period overall to understand the monthly rate of SMS messages at The Groves Medical Centre.

STAFF TURNOVER

Staff turnover data was provided by The Groves Medical Centre. Here, the aggregated number of starters and leavers was provided between 29th June 2023 to 29th October 2023 and 30th October 2023 to 29th February 2024. Further, the monthly staffing numbers were provided for both aforementioned periods.

Metrics examined

Table 5 highlights the metrics examined in the evaluation.

Table 5: Table of metrics examined in the current evaluation.

Dataset/source	Metric
NHS Digital: Registered patients at a GP practice	The number of patients registered at The Groves Medical Centre
NHS Digital: Appointments in General Practice	The number of DNAs that occurred at The Groves Medical Centre
	The number of attended appointments that occurred at The Groves Medical Centre overall
	The number of DNAs that occurred in NHS England
	The number of attended appointments that occurred in NHS England overall
	The number of appointment slots that took place overall

The Groves Medical Centre and Rapid Health linked data: Booked appointment slots	The number of appointment slots that took place by the person who completed the care request (patient, clinician, receptionist)
	The number of patients having phone, face-to-face, and visit appointment slots
	The number of pre-booked versus on the day appointment slots (please see Table 2 for a how pre-booked and on the day appointment slots are defined)
	The number of appointment slots per staff role
	The number of patients requiring another appointment slot within two weeks of their first appointment slot (not specifying causes)
	Patient consultation time
	The time taken to receive a pre-booked versus on the day appointment slot from requesting an appointment to the appointment time slot occurring (please see Table 2 for a how pre-booked and on the day appointment slots are defined)
	The number of urgent requests via Rapid Health's Smart Triage that Rapid Health's Smart Triage triaged as requiring on the day care who received an appointment slot for on the day care
Rapid Health: Requests via Rapid Health's Smart Triage	The number of requests sent via Rapid Health's Smart Triage
	The time taken from the request being submitted via Rapid Health's Smart Triage to the patient offered an appointment slot and subsequently booking an appointment
	The time the request was submitted via Rapid Health's Smart Triage
	The number of requests via Rapid Health's Smart Triage sent to Rapid Health inbox

	The number of urgent requests via Rapid Health's Smart Triage
	The number of requests via Rapid Health's Smart Triage by urgency and the time from requesting to attending the assigned appointment slot
	The number of patients told to go to A&E, but then booked an appointment at The Groves Medical Centre
	The number of patients told to go to A&E following a request via Rapid Health's Smart Triage, who said they would go to A&E
	The number of patients who went to A&E due a request via Rapid Health's Smart Triage, of the total proportion of registered patients at The Groves Medical Centre
	The number of requests via Rapid Health's Smart Triage that were completed by staff and patients
	The number of requests via Rapid Health's Smart Triage that resulted in appointment slots that were pre-booked versus on the day (please see Table 2 for a how pre-booked and on the day appointment slots are defined)
	The number of requests via Rapid Health's Smart Triage that were made in practice hours and out of practice hours
	The number of patients with a registered disability who completed requests via Rapid Health's Smart Triage
	The number of patients who completed requests via Rapid Health's Smart Triage by age
	The number of requests via Rapid Health's Smart Triage that were completed online, by telephone, or in person

	The number of appointment slots offered to patients at the time of their request via Rapid Health's Smart Triage
The Groves Medical Centre: 111 calls	The rate of 111 calls to registered patients at The Groves Medical Centre
The Groves Medical Centre: Telephone calls	The total number of telephone calls
	The maximum number of telephone calls at one time
	Average telephone call duration
	The proportion of answered, missed, and abandoned telephone calls
The Groves Medical Centre: Staff work hours	The number of hours staff spent on tasks per week
Staff survey (pre- and post-implementation)	Responses to "*what is your job role?*"
	Responses to "*how long have you been working at The Groves Medical Centre?*"
	Responses to "*are you involved in the current patient appointment pathway as part of your role? If you are, what tasks do you need to complete?*"
	Responses to "*what are the benefits of the current patient appointment booking system?*"
	Responses to "*what are the challenges of the current patient appointment booking system?*"
	Responses to "*I am satisfied with the use of Rapid Health at The Groves Medical Centre*"
	Responses to "*the current patient appointment pathway is easier to use*"

	Responses to "*what impact does the patient appointment pathway have on your workload?*"
	Responses to "*the current patient appointment pathway is a stress-free experience in my everyday work*"
	Responses to "*the current patient appointment pathway helps to facilitate the provision of high-quality patient care*"
	Responses to "*the current patient appointment pathway helps patients to access care quickly*"
Staff survey (post-implementation)	Responses to "*I can find the information I need when using the Rapid Health platform*"
	Responses to "*on a scale where 0 = 'Not likely to recommend Rapid Health at all' to 10 = 'Definitely likely to recommend Rapid Health', how likely are you to recommend Rapid Health to other GP practices?*"
	Responses to "*Rapid Health has successfully supported the move to 15-minute appointments*"
	Responses to "*due to Rapid Health, I now have more time to dedicate to managing complex patients*"
	Responses to "*Rapid Health has positively influenced by commitment to staying in my current job*"
Friends and Family patient survey	Responses to "*overall, how was your experience of our service?*"
	Responses to "*please can you tell us why you gave your answer?*"
	Responses to "*please tell us about anything we could have done better*"

	Responses to "*how easy was it to book your appointment?*"
	Responses to "*how did you book your appointment?*"
Patient survey	Responses to "*what is your gender?*"
	Responses to "*what is your age?*"
	Responses to "*what is your ethnicity?*"
	Responses to "*how long have you been a patient at The Groves Medical Centre?*"
	Responses to "*how capable do you feel in navigating digital technologies, using online tools, and understanding digital information?*"
	Responses to "*how often do you require assistance to use digital technologies and online tools?*"
	Responses to "*do you complete admin or medical requests by yourself, or does someone complete them for you?*"
	Responses to "*have you submitted an admin or medical request [by telephone/in person/online] in the last three months?*"
	Responses to "*why did you submit some or all of your admin or medical requests [by telephone/in person], rather than submitting them online?*"
	Responses to "*my overall care experience has improved now I can submit admin and medical requests through Rapid Health*"
	Responses to "*having the ability to choose my appointment date and time has made the experience of booking a medical appointment less stressful*"

	Responses to "*submitting admin or medical requests using Rapid Health was easy*"
	Responses to "*how does Rapid Health compare with the previous way to submit admin or medical requests at The Groves Medical Centre?*"

Analysis methods

Calculating rate

The rate of 111 calls per month was averaged for each month from October to February across the pre-implementation period (October 2020 to February 2021, October 2021 to February 2022, and October 2022 to February 2023) and the post-implementation period (October 2023 to February 2024) and calculated using the following equation:

$$\frac{The\ number\ of\ 111\ calls\ per\ month\ at\ The\ Groves\ Medical\ Centre}{The\ number\ of\ registered\ patients\ at\ The\ Groves\ Medical\ Centre\ (NHS\ Digital, 2024c)}$$

The rate of A&E attendances per month was averaged across the pre- and post-implementation periods separately to compare the average rate of A&E attendances and admissions to registered patients before and after Rapid Health's Smart Triage implementation and calculated using the following equation:

$$\frac{\begin{array}{c}The\ number\ of\ patients\ told\ to\ go\ to\ A\ and\ E\ following\ a\ request\ via\ Rapid\ Health \\ at\ The\ Groves\ Medical\ Centre, who\ said\ they\ would\ go\ to\ A\ and\ E\end{array}}{The\ number\ of\ registered\ patients\ at\ The\ Groves\ Medical\ Centre\ (NHS\ Digital, 2024c)}$$

The rate of A&E attendances and admissions in NHS England per month was averaged across the pre- and post-implementation periods separately to compare against the rate from The Groves Medical Centre. This was calculated using the following equation:

$$\frac{The\ number\ of\ A\ and\ E\ attendances\ and\ admissions\ in\ NHS\ England\ (NHS\ England, 2024a)}{The\ number\ of\ registered\ patients\ in\ NHS\ England\ (NHS\ Digital, 2024c)}$$

The rate of answered telephone calls to registered patients was calculated using the following equation:

$$\frac{The\ number\ of\ answered\ telephone\ calls\ at\ The\ Groves\ Medical\ Centre}{The\ number\ of\ registered\ patients\ at\ The\ Groves\ Medical\ Centre\ (NHS\ Digital, 2024c)}$$

Statistical testing

Table 6 below depicts a table containing each analysis element with the statistical analysis method completed where relevant.

Table 6: The statistical analysis conducted for each analysis component.

Analysis (time period)	Metric	Statistical analysis conducted
SMS	The rate of appointment-related SMS messages sent to patients	Comparison of rates test
Staff turnover	N/A	N/A

STATISTICAL PROCESS CONTROL CHARTS

Statistical Process Control (SPC) charts were used to determine whether metrics remained consistent over time to understand variability. Here, the SPC tool provided by NHS England (n.d.) was used to interpret the data. The tool creates a chart, where a red triangle indicates a statistically significant variation. The dotted grey lines indicate the expected range for data points if the variation is within expected (normal) limits.

CHI-SQUARE STATISTICAL TEST

A chi-square statistical test was used to understand if there was a significant relationship between categorical variables before and after Rapid Health's Smart Triage was implemented. A significance level (*p*-value) of 0.05 was set to determine statistical significance, where $p < 0.05$ indicated a statistically significant difference in rate.

COMPARISON OF RATES STATISTICAL TEST

A comparison of rates statistical test was used to determine if there was a significant difference between rates before and after Rapid Health's Smart Triage was implemented. A significance level (p-value) of 0.05 was set to determine statistical significance, where $p < 0.05$ indicated a significant difference in rate.

10.3.Appendix C: Quantitative insights continued

Registered patients

The number of registered patients over time at The Groves Medical Centre is depicted in Figure 55.

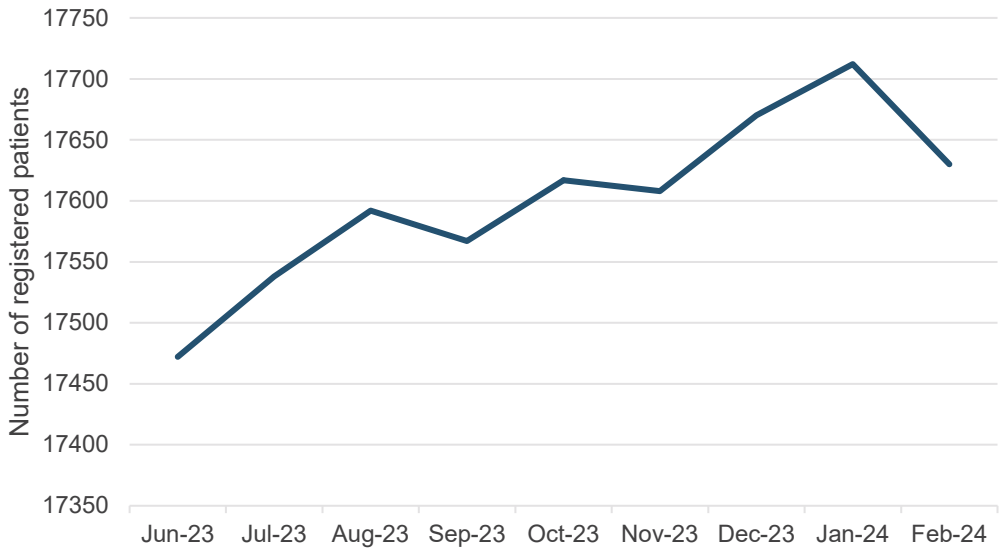

Figure 55: The number of patients registered at The Groves Medical Centre from June 2023 to February 2024.

To understand whether the number of registered patients at The Groves Medical Centre over time was statistically significant, an SPC chart was created. Here, no statistically significant variation was identified throughout the data points (Figure 56).

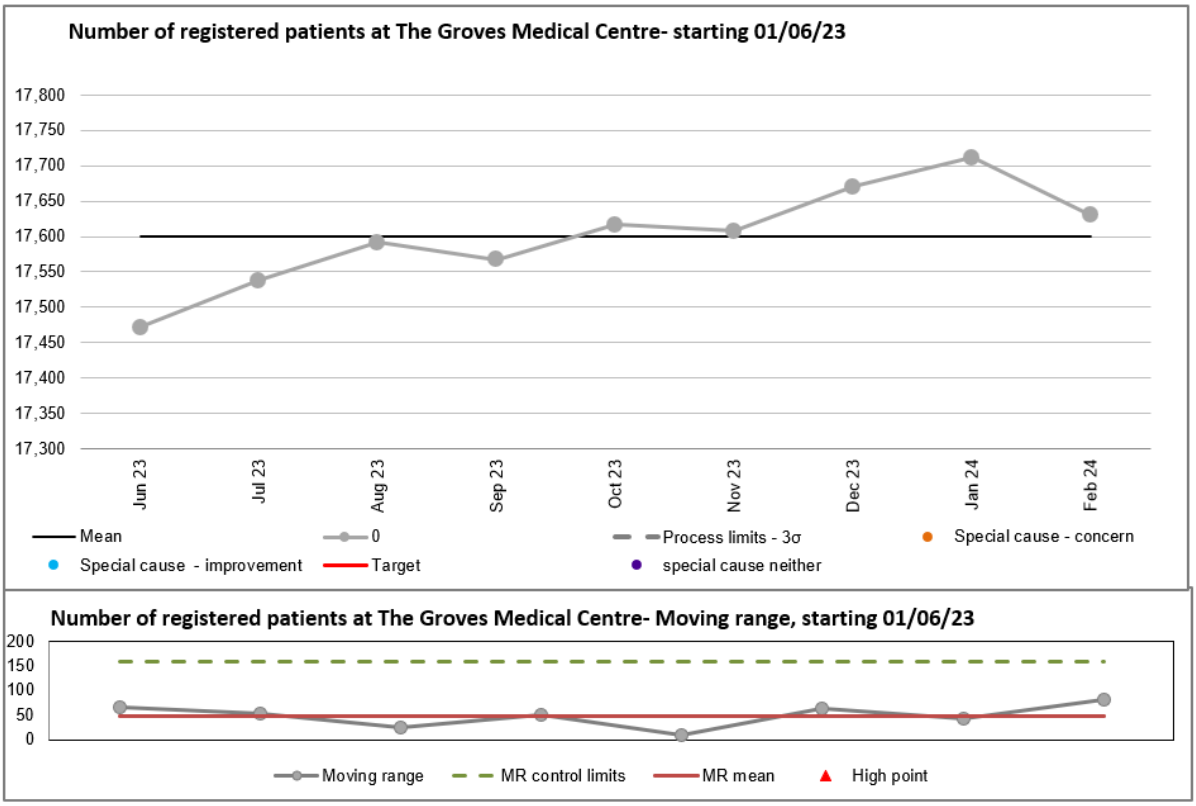

Figure 56: An SPC chart depicting the number of registered patients at The Groves Medical Centre over time.

Appointment slots

The number of appointments held per month at The Groves Medical Centre is depicted in Figure 57.

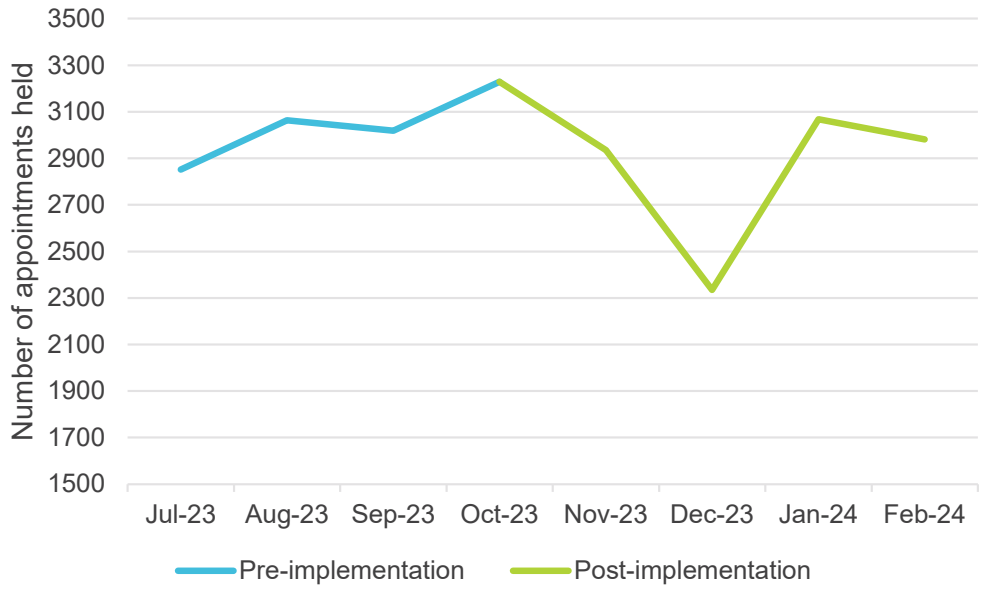

Figure 57: The number of appointments held at The Groves Medical Centre in the pre- and post-implementation period.

An SPC chart was created to understand whether there was a significant difference in the full-monthly trend of appointments held. The SPC chart identified no significant variation in the number of appointments from July 2023 to February 2024 (Figure 58).

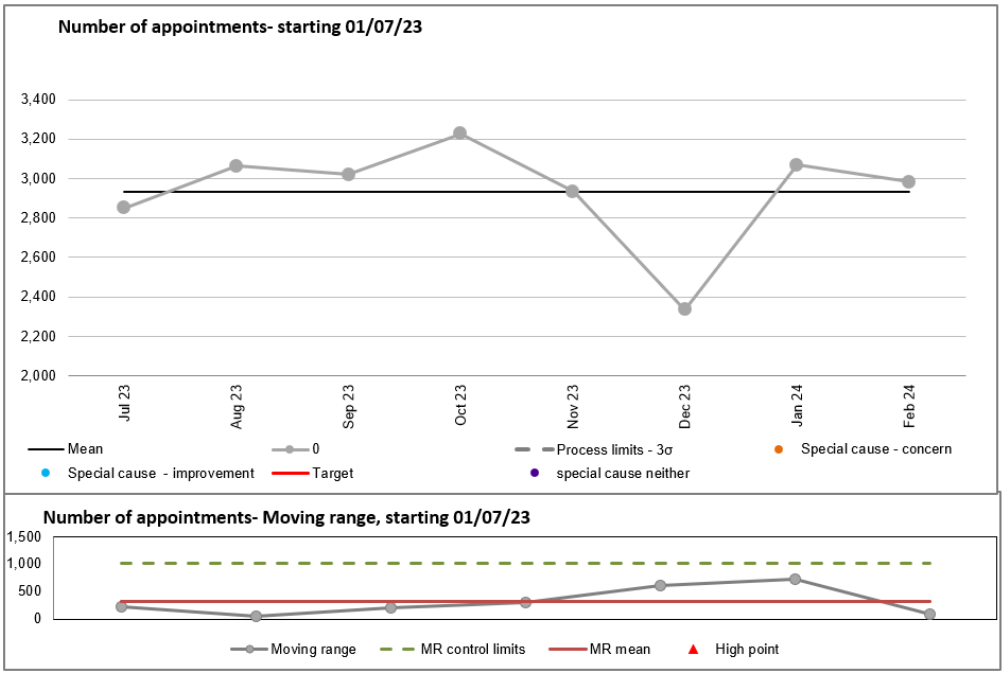

Figure 58: An SPC chart highlighting the number of appointments held from July 2023 to February 2024 at The Groves Medical Centre.

DNAs

An SPC chart was created to understand whether there was a significant difference in the full-monthly trend of DNAs to number of appointments held. The SPC chart identified no significant variation in the rate of DNAs from July 2023 to February 2024 (Figure 59).

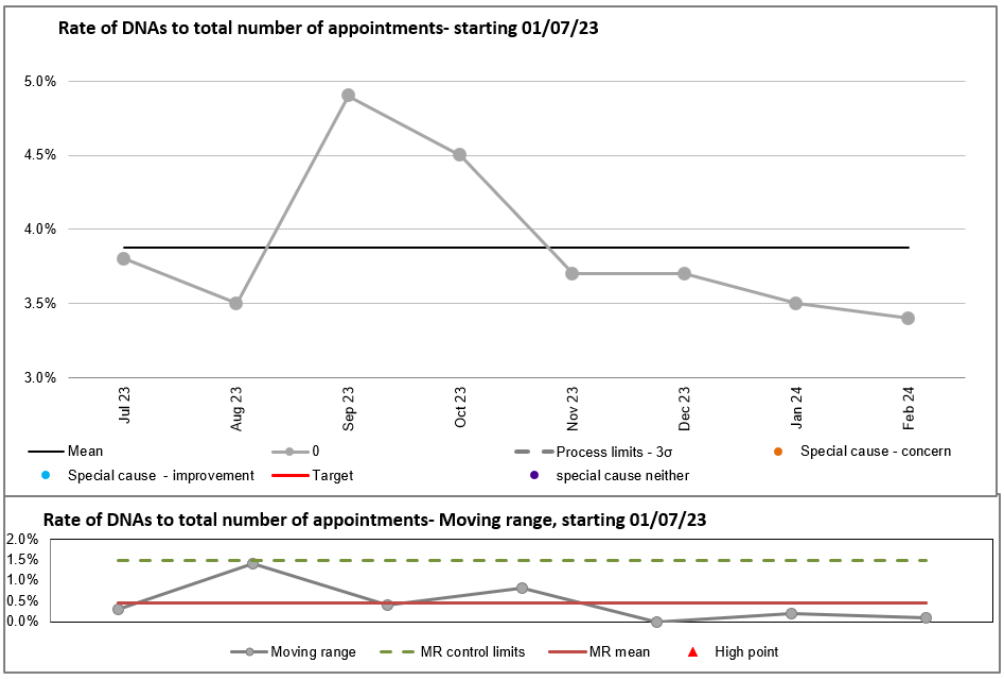

Figure 59: An SPC chart highlighting the rate of DNAs to attended appointments from July 2023 to February 2024 at The Groves Medical Centre.

Telephone calls

Number of phone calls

The total number of phone calls to The Groves Medical Centre decreased by 3,113 on average per month following Rapid Health's Smart Triage implementation compared to before Rapid Health's Smart Triage was implemented (Figure 60).

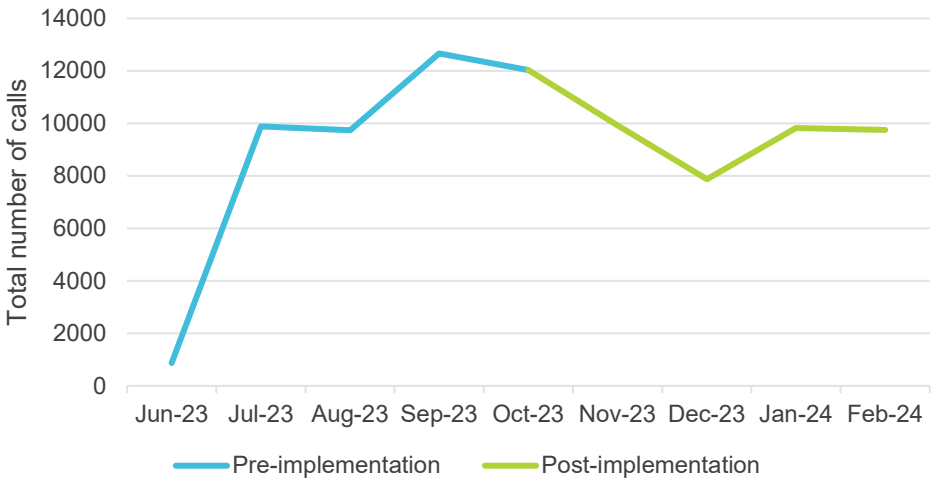

Figure 60: The total number of phone calls to The Groves Medical Centre during the pre and post-implementation periods.

Maximum number of telephone calls at one time

Figure 61 depicts the maximum number of telephone calls The Groves Medical Centre received at one time from June 2023 to February 2024.

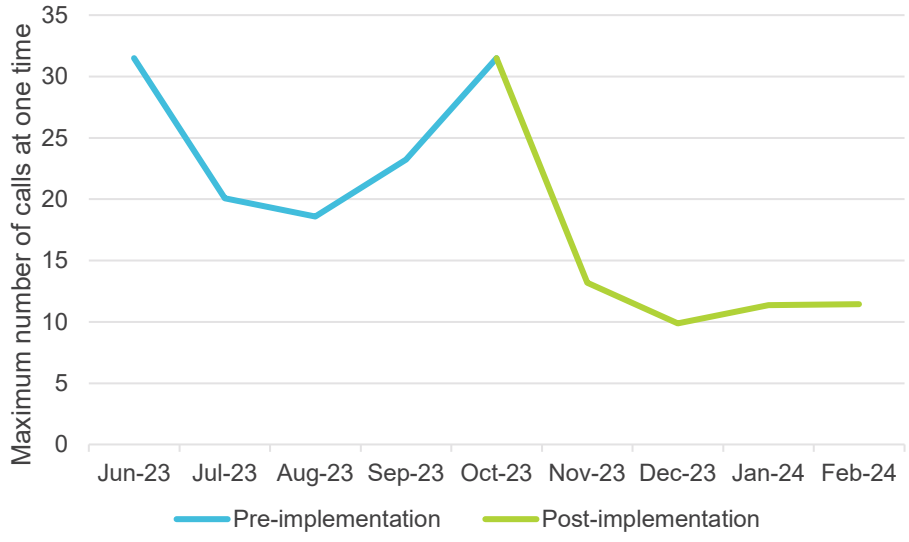

Figure 61: The maximum number of phone calls at one time during the pre and post-implementation periods.

Average duration of phone calls

Calls following Rapid Health's Smart Triage implementation lasted 7 minutes 12 seconds on average, compared to 5 minutes 36 seconds before Rapid Health's Smart Triage implementation (Figure 62).

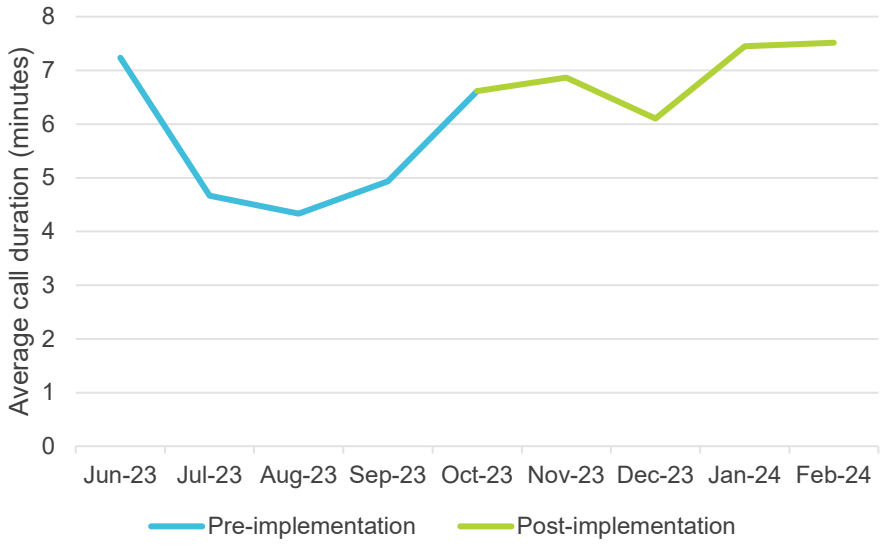

Figure 62: The average duration of phone calls during the pre and post-implementation periods.

Staff work hours

Receptionist staff work hours were compared against each other during the pre- and post-implementation periods (Figure 63). Staff spent the most time on average in both periods (pre-implementation = 9 hours; post-implementation = 10 hours) completing tasks related to Rapid Health's Smart Triage. The '*Rapid Health*' category was renamed in SystmOne after the introduction of Rapid Health's Smart Triage. The previous name could not be obtained, but it is likely that this was related to appointment booking. Following Rapid Health's Smart Triage implementation, the average time spent on admin tasks decreased (pre-implementation = 7 hours; post-implementation = 4 hours).

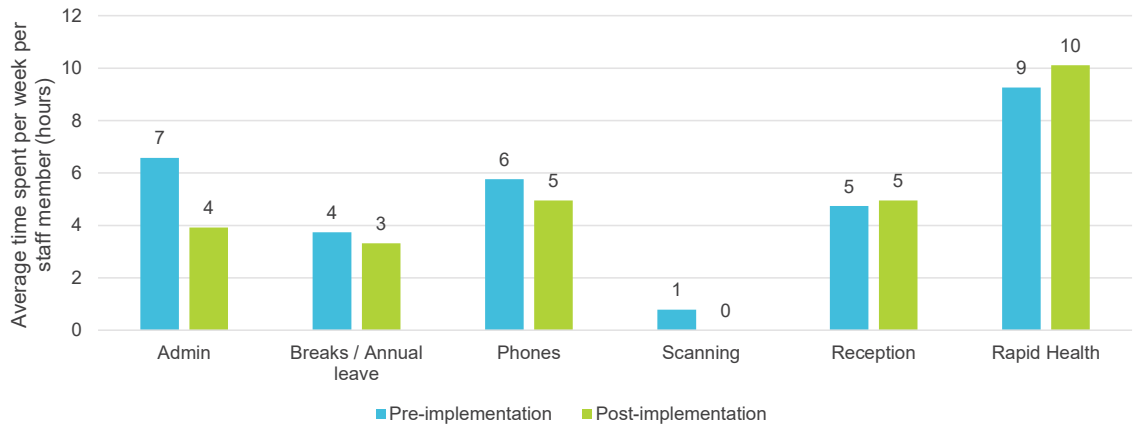

Figure 63: Average time receptionists were allocated different tasks per week in the pre- and post-implementation periods.

SMS messages

There were more SMS messages in the post-implementation period compared to the pre-implementation period (Figure 64). The SMS messages in January 2024 were due to SMS messages sent to all patients that signposted them to appropriate care as the practice was closed for the winter holiday period. Rapid Health's Smart Triage eliminates the use of SMS by utilising email communication instead. Notably, The Groves Medical Centre did not employ SMS prior to the implementation of Rapid Health's Smart Triage, suggesting that the proportion of SMS use should have remained consistent across the evaluated periods. Furthermore, Rapid Health's Smart Triage has not incorporated SMS for online consultations, which is beneficial from a cost perspective, as SMS messages incur additional expenses.

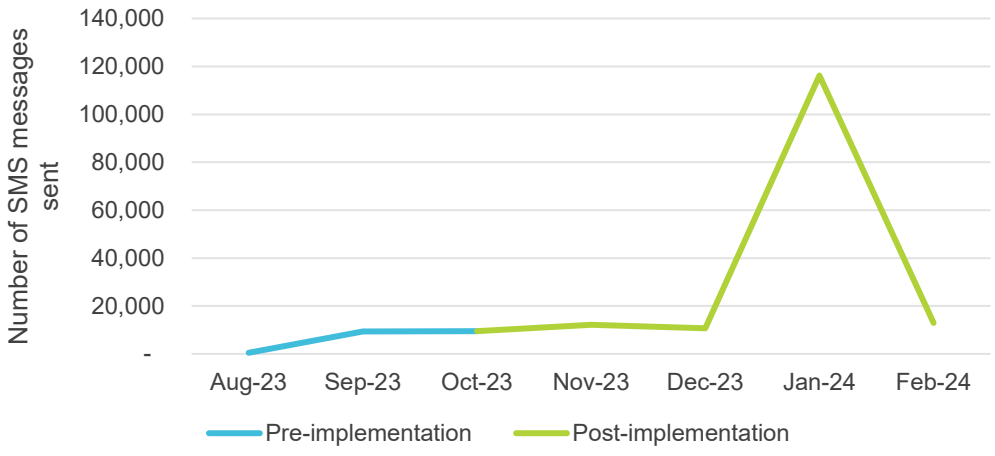

Figure 64: The number of SMS messages sent per month in the pre- and post-implementation periods.

Abandoned and missed calls result in patients receiving a link to Rapid Health's Smart Triage, which comes through the telephone system. The Groves Medical Centre receives a number of free texts in their base contract, meaning Rapid Health's Smart Triage has not sent these text messages or requires the text messages to be sent.

Staff turnover

Staff turnover rate increased in the post-implementation period (Table 7). It should be noted that staff turnover rate is multifactorial; other variables could be at play such as the winter period when there is a higher risk of illness.

Table 7: Staff turnover rate in the pre-implementation and post-implementation periods.

Period	Staff turnover rate (%)
Pre-implementation	3.6%
Post-implementation	10.7%

10.4.Appendix D: Qualitative insights continued

Staff surveys

When asked whether the patient appointment pathway helped patients to access care quickly, 92% of pre-implementation survey responses were either often (46%; *n* = 6) or sometimes (46%; *n* = 6; Figure 65). In the post-implementation survey, 100% of responses were either often (38%; *n* = 8) or sometimes (62%; *n* = 13).

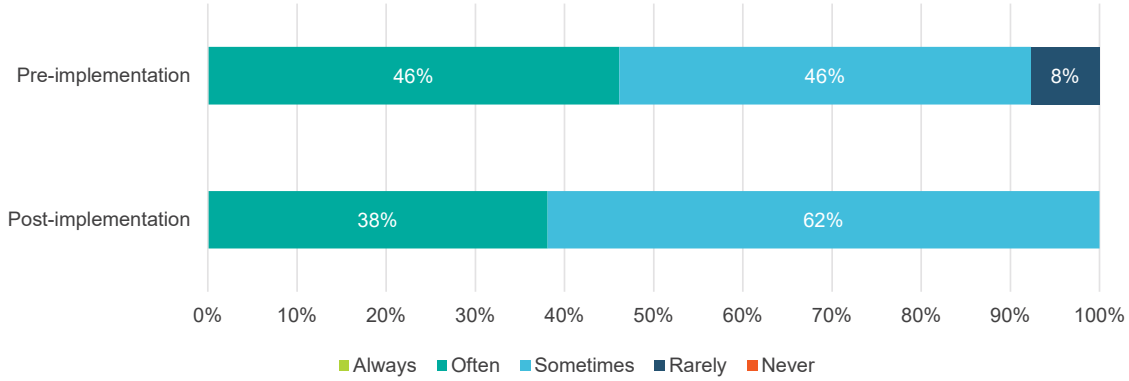

Figure 65: Staff survey responses to the statement '*the current patient appointment pathway helps patients to access care quickly*' in the pre-implementation (*n* = 13) and post-implementation (*n* = 21) periods.

Responses were mostly neutral in terms of whether Rapid Health's Smart Triage positively influenced staff member commitment to staying in their current role (70%; *n* = 16; Figure 66). Four staff members (17%) disagreed with the statement, suggesting some dissatisfaction with Rapid Health's Smart Triage.

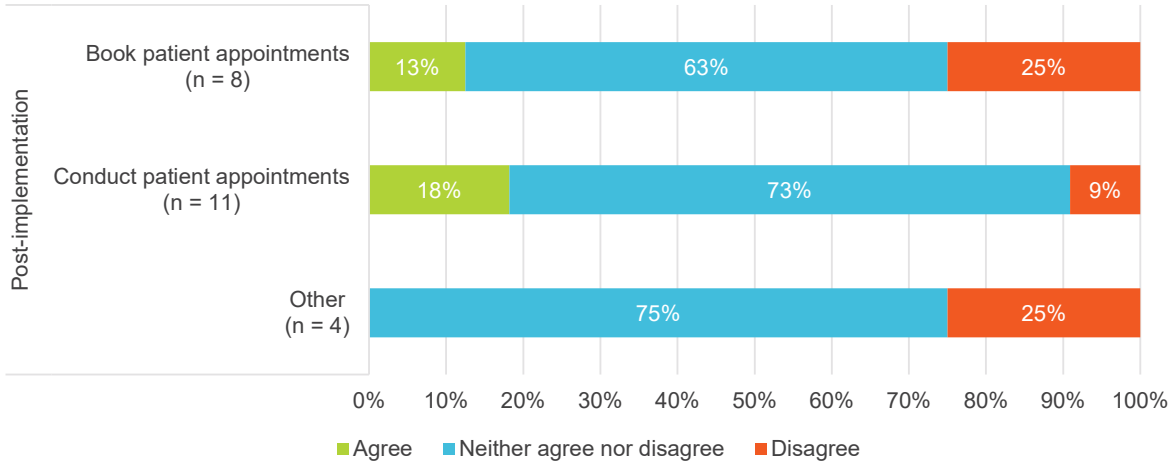

Figure 66: Staff survey responses to the statement '*Rapid Health has positively influenced by commitment to staying in my current job*' in the post-implementation (*n* = 23) period.

Friends and Family survey

Patients were asked to expand on their answer to '*overall, how was your experience of our service?*'. In the pre-implementation period, patients who responded with either '*very good*' or '*good'* noted reasons due to accessibility (86%; *n* = 6), booking experience (78%; *n* = 78), and efficiencies (94%; *n* = 17; Table 8). In the post-implementation period, patients who responded with either '*very good*' or '*good'* noted reasons due to accessibility (77%; *n* = 76), efficiencies (80%; *n* = 41), and patient choice (62%; *n* = 8). Here, patients noted that Rapid Health's Smart Triage was "*so much easier and smoother and there was much more availability*". Patients appreciated the choice they had in their appointment slots, where one patient stated "*lots of options to select a convenient appointment*".

Table 8: Thematic analysis breakdown for the question '*please can you tell us why you gave your answer?*' as part of the Friends and Family survey in the pre-implementation (*n* = 64) and post-implementation (*n* = 237) periods, divided by the responses to '*overall, how was your experience of our service?*'.

	Pre-implementation			Post-implementation		
	Very good / Good	Neither good nor poor	Very poor / Poor	Very good / Good	Neither good nor poor	Very poor / Poor
Accessibility	86% (*n* = 6)	0% (*n* = 0)	14% (*n* = 1)	77% (*n* = 76)	17% (*n* = 17)	6% (*n* = 6)

Booking experience	78% (*n* = 7)	11% (*n* = 1)	11% (*n* = 1)	0% (*n* = 0)	100% (*n* = 3)	0% (*n* = 0)
Efficiencies	94% (*n* = 17)	0% (*n* = 0)	6% (*n* = 1)	80% (*n* = 41)	12% (*n* = 6)	8% (*n* = 4)
Errors and cancellations	50% (*n* = 2)	25% (*n* = 1)	25% (*n* = 1)	0% (*n* = 0)	40% (*n* = 2)	60% (*n* = 3)
Patient choice	50% (*n* = 2)	25% (*n* = 1)	25% (*n* = 1)	62% (*n* = 8)	38% (*n* = 5)	0% (*n* = 0)
Rapid Health's Smart Triage improvements	-	-	-	20% (*n* = 2)	40% (*n* = 4)	40% (*n* = 4)

Patients were asked if there was anything that could have been done better. In the previous pathway, patients noted a negative experience due to reasons surrounding efficiencies (50%; *n* = 2), communication (25%; *n* = 1), and patient choice (25%; *n* = 1; Table 9). Following Rapid Health's Smart Triage implementation, patients who had a negative experience primarily noted elements around patient choice (38%; *n* = 6), where patients noted that "*availability of appointments wasn't great. I had to try several times during the week to get this appointment*" and "*only one option given for initial appointment date, couple of choices would be better*". This highlights conflicting views from patients in terms of patient choice and accessibility. Further, 19% (*n* = 3) suggested improvements should be made to Rapid Health's Smart Triage.

Table 9: Thematic analysis breakdown for the question '*please tell us about anything we could have done better*' as part of the Friends and Family survey in the pre-implementation (*n* = 135) and post-implementation (*n* = 270) periods, divided by the responses to '*overall, how was your experience of our service?*'.

	Pre-implementation			Post-implementation		
	Very good / Good	**Neither good nor poor**	**Very poor / Poor**	**Very good / Good**	**Neither good nor poor**	**Very poor / Poor**
Accessibility	19% (*n* = 17)	0% (*n* = 0)	0% (*n* = 0)	25% (*n* = 39)	14% (*n* = 3)	0% (*n* = 0)

Booking experience	3% (*n* = 3)	0% (*n* = 0)	0% (*n* = 0)	6% (*n* = 9)	5% (*n* = 1)	13% (*n* = 2)
Communication	4% (*n* = 4)	25% (*n* = 1)	25% (*n* = 1)	3% (*n* = 5)	5% (*n* = 1)	13% (*n* = 2)
Efficiencies	31% (*n* = 28)	50% (*n* = 2)	50% (*n* = 2)	24% (*n* = 37)	27% (*n* = 6)	13% (*n* = 2)
Errors and cancellations	2% (*n* = 2)	0% (*n* = 0)	0% (*n* = 0)	1% (*n* = 2)	5% (*n* = 1)	6% (*n* = 1)
Patient choice	40% (*n* = 36)	25% (*n* = 1)	25% (*n* = 1)	27% (*n* = 42)	23% (*n* = 5)	38% (*n* = 6)
Rapid Health's Smart Triage improvements	-	-	-	14% (*n* = 22)	23% (*n* = 5)	19% (*n* = 3)

Post-implementation patient survey

The only patients who agreed with the experience statements were those who were either extremely or very capable with navigating digital technologies (Figure 67).

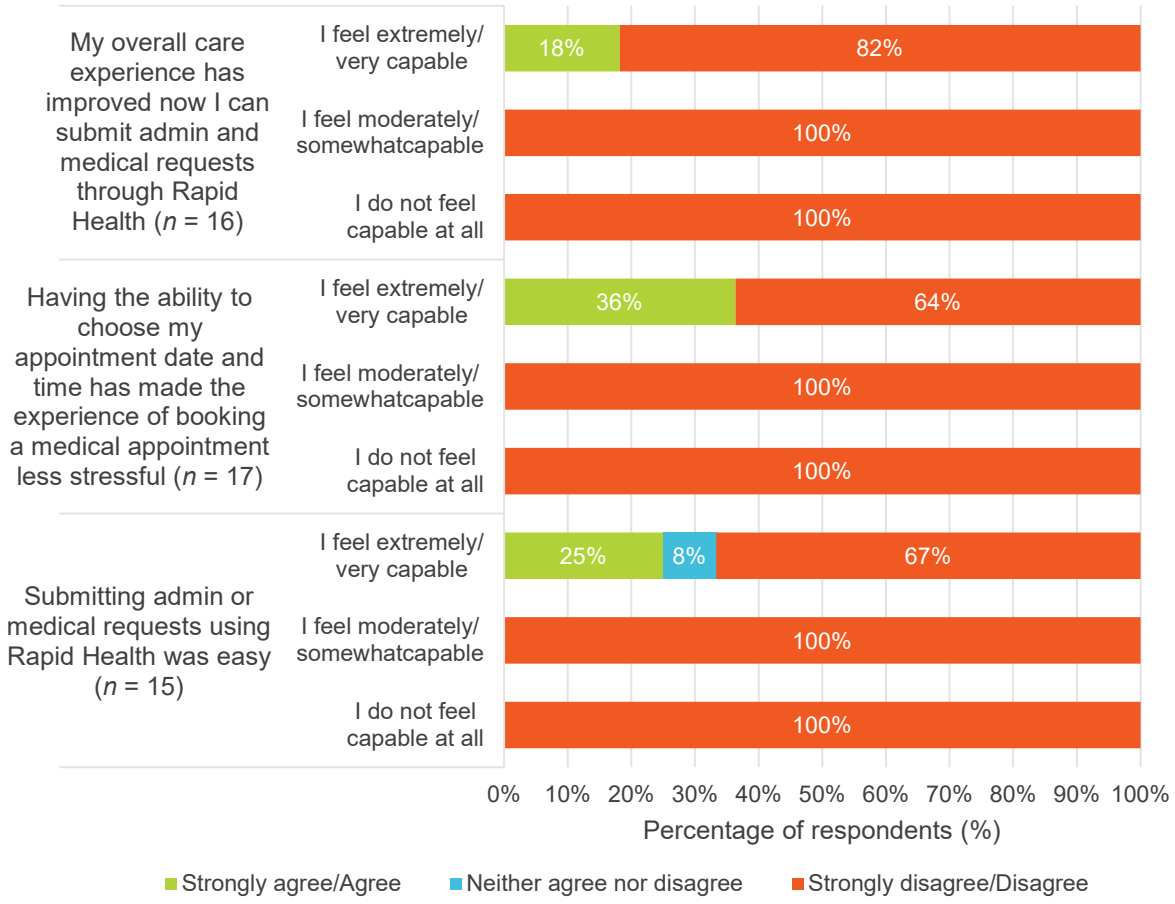

Figure 67: Patient survey responses to the statements '*my overall care experience has improved now I can submit admin and medical requests through Rapid Health*' (*n* = 16), '*having the ability to choose my appointment date and time has made the experience of booking a medical appointment less stressful*' (*n* = 17), and '*submitting admin or medical requests using Rapid Health was easy*' (*n* = 15).

10.5.Appendix E: Limitations continued

Staff rota data

Staff rota data represented only a random snapshot of work hours, meaning that other weeks may differ. The analysis was based on a comparison of one week in the pre- and post-implementation periods, but staff work hours can vary from week to week. As a result, the selected weeks may not accurately represent the average work hours for each period. Furthermore, the pre-implementation staff work hours data was collected during the soft launch of Rapid Health's Smart Triage, which may not fully capture the conditions of the pre-implementation period. Future evaluations should examine work hours across the entire pre- and post-implementation periods to improve the accuracy and reliability of the analysis.

SMS messages

Data was unavailable for part of the pre-implementation period; only data from August 2023 onwards was available. Data for the full pre-implementation period may have showed different trends, however there was no way to determine whether this was the case due to unavailability of data.

There was no way to know whether the change in SMS messages was due to Rapid Health's Smart Triage or other variables not examined. Consequently, other unrelated factors could have influenced the change in SMS messages, making it difficult to accurately assess whether Rapid Health's Smart Triage impacted the frequency of SMS messages sent.

Staff turnover

Staff turnover is multifactorial. Other factors outside of Rapid Health's Smart Triage implementation were likely to have impacted the trend observed over the evaluation period. This means that it is difficult to assess whether Rapid Health's Smart Triage alone impacted staff turnover or whether other factors at play impacted staff turnover, such as long-term sickness.