Advanced Paramedic Practitioner Pacesetter Project Interim Report

March 2021

Contents

Introduction

In 2018, Betsi Cadwaladr University Health Board (BCUHB) and Welsh Ambulance Service Trust (WAST) were awarded funding for a Welsh Government Pacesetter project.

Since the first evaluation report was published, the Pacesetter project has entered Phase II (September 2020) and seen a period of great change both for the Pacesetter project, and the NHS more generally as a result of the Coronavirus pandemic.

Aims

The project aims and objectives remain unchanged. This Pacesetter intends to address the viability of an extended rotational approach to the delivery of care using a WAST Advanced Paramedic Practitioner (APP) based within Primary Care. It is anticipated that the project will benefit patients, APPs, Primary Care, WAST, BCUHB & inform Welsh Government policy decisions. The rotational model offers APPs an opportunity for career development without depleting paramedic workforce.

The main objectives of the project were to provide an additional professional for the MDT, increase capacity in Primary Care (once embedded), integrated working between BCUHB, Primary Care Clusters and WAST, improved patient experience, and additional clinical skills for APPs.

Phase II

For Phase II, the original nine APPs remained on the project (Cohort I), and nine new WAST APPs joined as 'Cohort II'. Some of these APPs had followed a shorter Masters pathway compared with Cohort I. Two new Clusters also joined the project to host APPs in Anglesey, and Central and South Denbighshire for their Primary Care rotation.

The rota was amended to incorporate both Cohorts of APPs, meaning each individual spends less time in Primary Care compared with Phase I as the hours are spread over a higher number of APPs. Their remaining hours are spent on rotation in their WAST role between the clinical contact centre and solo responding. Each paramedic was provided with a pack of basic kit (including items such as a stethoscope, otoscope and patella hammer) and share one unmarked car per Cluster area. They each have a laptop and tablet provided by WAST which they are able to use during Primary Care shifts.

Phase II has seen a move away from a Cluster approach to a Practice based APP service. The financial incentives which were previously available to Clusters were withdrawn as they were originally available to provide to support Cohort I GP supervision and costs associated with data collection. In addition, the Coronavirus pandemic resulted in significant re-structure in Primary Care services, including an increase in eConsult and telephone consultations. It also resulted in a reduction in home visits and surgery consultations, which are now only undertaken where examination is required, or for sick patients.

Consequently, the model of implementation has been amended in some Clusters to support these changes, and is outlined in more detail below. A number of APPs have also supported the Covid-19 vaccine rollout either in-surgery or at Mass Vaccination Centres.

North West Wrexham – Home Visiting service (patient home and nursing/residential) on behalf of four practices. Looking to move to a practice-based service to include telephone triage.

Conwy East – Two surgeries, APPs provide telephone triage and practice-based consultations.

Conwy West – APPs support three surgeries and deliver telephone triage with consultations in practice as required.

Arfon – A combination of home visiting and telephone consultations across four surgeries (two per APP).

Dwyfor – The requirements of this rural Cluster mean APPs are predominantly still undertaking home visits (patient home and nursing/residential homes).

Anglesey – APPs work for three surgeries to deliver telephone triage/eConsult, with consultations in practice as required.

Central & South Denbighshire – Retained a Cluster based approach rotating between practices.

At the start of Phase I, a local medical education provider was commissioned to develop an education framework and deliver sessions for APPs new to Primary Care. The success of these sessions with Cohort I, meant they were delivered again for Cohort II but moved online due to restrictions around social distancing. In Phase II, Cohort II received online education sessions delivered by clinicians from BUCHB Primary Care Academy. The APPs provided complimentary feedback, but it was agreed that when both Cohorts step off their respective education programmes, the time will be used most effectively with additional Primary Care shifts, and scheduled sessions to include case reviews, items of interest and guest speakers.

The original evaluation framework was developed in collaboration with Public Health Wales. Feedback and learning from previous data collection resulted in some changes for Phase II but it has retained the core elements of the APP, WAST, Primary Care, and Education. Phase II data collection will have a greater focus on WAST as much of the Phase I data centred on Primary Care outcomes. An evaluation of impact on patients, project design and economic evaluation during Phase I was undertaken by an external partner and is reported separately.

This report outlines key findings from data collected during Phase II and how some of the recommendations from Phase I have been considered in the delivery of the project in Phase II. It comes at an exciting time as the project moves into its final year, and the project team seek long term funding and sustainability of this innovative model of rotational working.

APP Activity Data February 2020 – January 2021

Background

This report outlines the headline findings from February 2020 to the end of January 2021. This time frame covers a period of great change in Primary Care as a result of the COVID-19 pandemic, including a move away from surgery-based appointments and the introduction of telephone triage which has been the biggest change for the APPs. More recently they have started to support vaccine delivery in the Mass Vaccination Centres and surgeries across North Wales.

Cohort I have worked on the Pacesetter rotation since June 2019. A second Cohort of APPs joined the project in late September 2020 (in two additional Cluster areas), therefore activity data from October onwards reflects the data from both Cohorts of APPs. Some of the APPs in Cohort II started the rotation with existing Primary Care experience. Where relevant, activity from each Cohort has been separated to distinguish some of the differences.

Methods

Data is collected to evidence the APP activity in Primary Care and to fulfil key elements of the APP section of the Pacesetter project evaluation framework. Data is recorded manually on a spreadsheet by each APP and emailed to the project team monthly, for review. The principles of data collection were agreed with BCUHB Information Governance. In addition, data sharing agreements such as DPIA (data protection impact assessment) are in place between BCUHB and WAST. Activity data collection and reporting has been undertaken within the remit of a service evaluation.

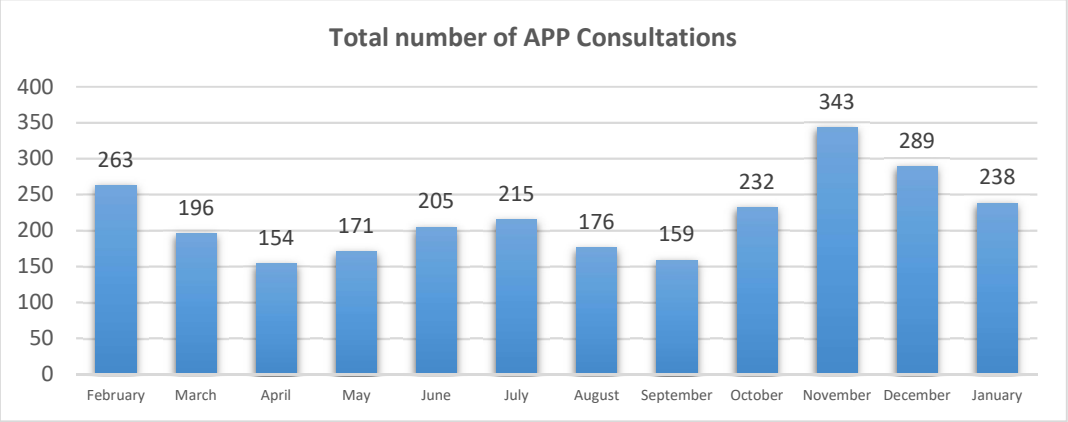
Overall Activity

Fourteen APPs provided activity data between February 2020 and the end of January 2021. Six of the APPs provided full data for their time on the project within the last year. It is thought there were 15 months' worth of missing data either through staff sickness, absences or non-return of activity data.

In total, there were 2641 documented consultations with an APP, 2193 were undertaken by Cohort I APPs, and 448 by Cohort II. Therefore APP consultations in Primary Care now exceed 5000 since June 2019. The true figure is likely to be considerably higher due to missing data.

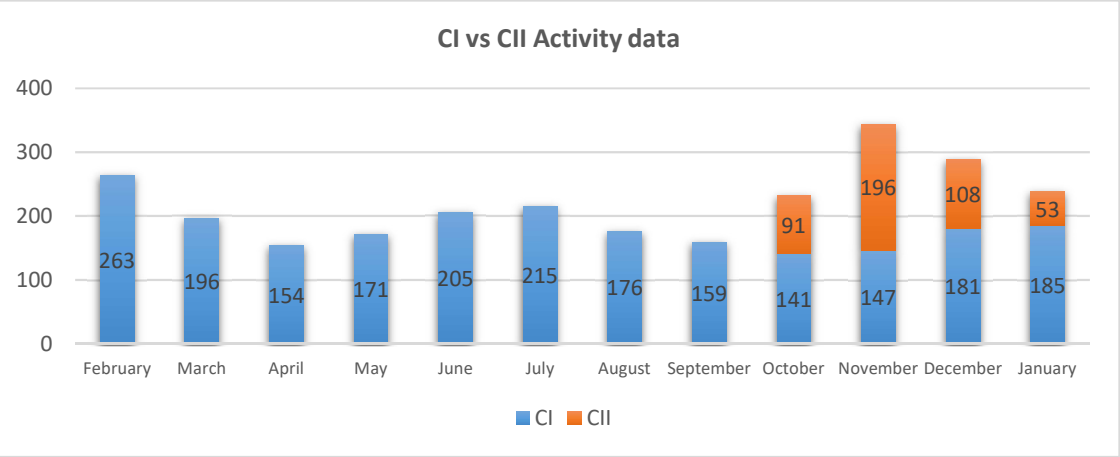
Of the total consultations in the last year, eight were visits to confirm a patient death. There were an additional 23 consultations not counted where the patient did not attend or was not contactable. These included 19 telephone consultations, 2 surgery appointments and 2 home visits.

The total number of consultations by month is displayed below. The reduction in March, April and May reflect national trends, where activity reduced due to the Coronavirus pandemic. The increase from October onwards can be attributed to the second Cohort of APPs joining the project.



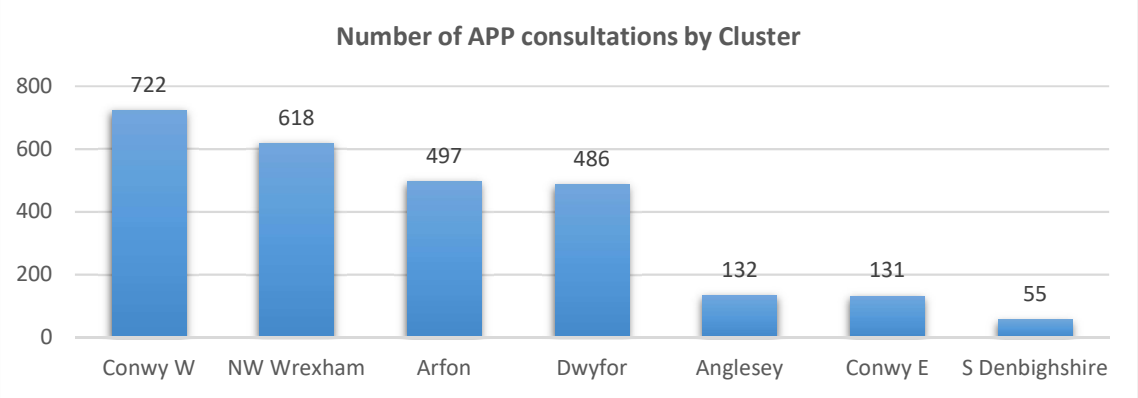
Cohort I had the highest activity in January 2020 (263) and lowest in October (141) by which time activity had almost halved. Their average over 12 months was 182 consultations per month.

Cohort II recorded their activity from October onwards and exceeded Cohort I activity in November. The reduced Cohort II data in January was attributed to annual leave and some missing data.



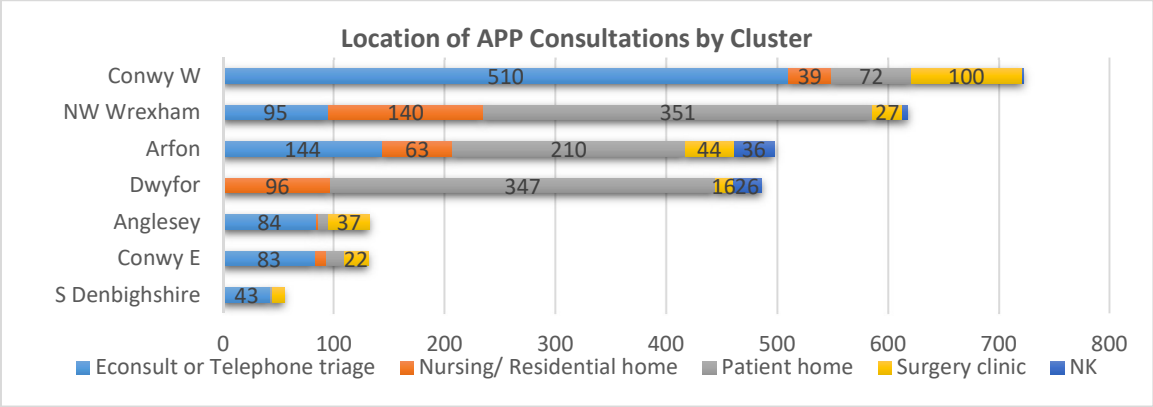
Cluster activity

Activity documented by Cluster ranged from 55 APP consultations to 722. Anglesey and South Denbighshire only joined the Pacesetter project in phase II. APPs recorded data in Conwy East for two months in early 2020 and additional APPs worked from October onwards. There has been just one APP in South Denbighshire.



The location of appointments is discussed in full below, however it is relevant to total Cluster activity figures. In Conwy West 510/722 (70.64%) of the consultations were eConsult or telephone triage meaning there were time savings compared to visits outside the surgery setting. Conwy West was the Cluster with the highest documented number of in-surgery consultations.

In contrast, Dwyfor recorded just one telephone consultation, and 91.15% of appointments took place outside the surgery setting. North West Wrexham also recorded a high percentage of nursing/residential and home visits (79.45%), however it is an urban area and far less geographically dispersed than Arfon and Dwyfor.
Anglesey and Conwy East both recorded just under two-thirds of appointments as telephone triage.



Appointment length

The duration of the consultation was documented for 1528 or 57.87% of appointments. The consultation length ranged from 2 minutes (patient queried where their prescription was), to 80 minutes (sick patient on a home visit). The mean time spent consulting a patient was 22:22 minutes.

Travel time

Travel time was completed for 934 out of 1356 consultations (68.87%) that took place outside the surgery setting (i.e. patient home, and nursing/residential home).

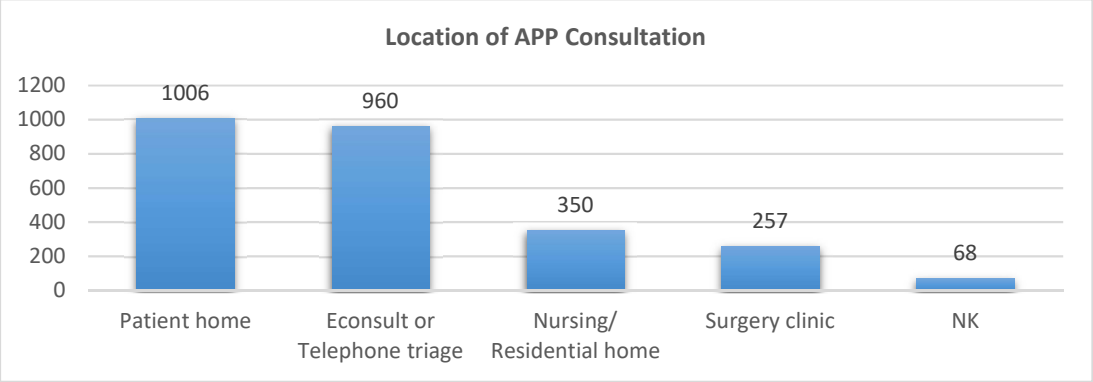
Travel time ranged from 0 minutes, e.g. seeing multiple patients in a residential or nursing home, to 50 minutes. The mean was 14:13 minutes. Dwyfor, Arfon and NW Wrexham were the only Clusters with travel time over 15 minutes, and Dwyfor where travel time exceeded 35 minutes.

Location

Location was documented for 2573 (97.43%) of consultations. There were most appointments documented as taking place in the patient home (1006/38.09%) and fewest in surgery clinics (257/9.73%).

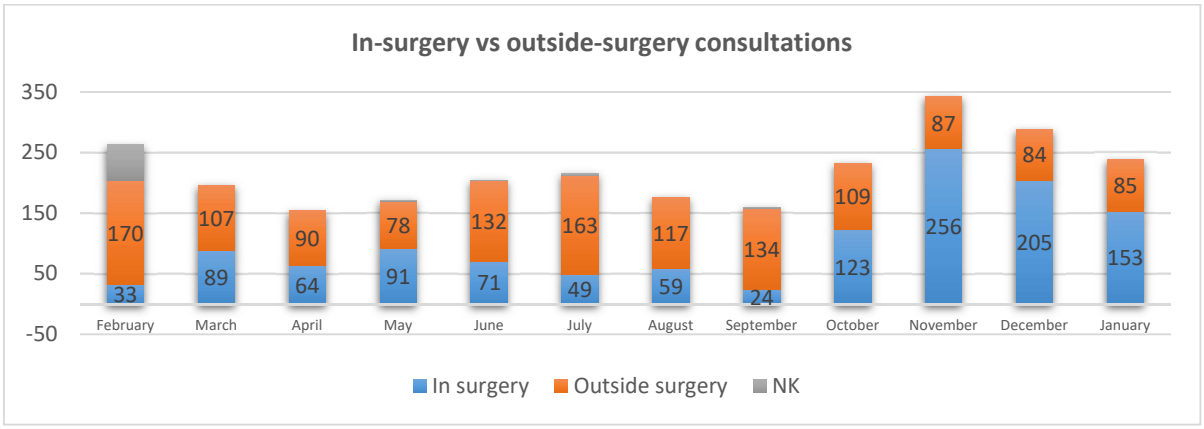
Overall, 1217 (46.08%) took place in the surgery setting as eConsult, telephone triage or face-to-face appointments, 1356 (51.34%) were outside surgery as nursing/residential or patient home visits. Prior to the Coronavirus pandemic, the APPs were not undertaking any telephone triage.

The location for the remaining 68 (2.58%) was not documented, and most were in February 2020, when APPs switched to this newer format of recording activity and experienced some initial technical issues.



The highest number of appointments outside of the surgery setting was February (170), and lowest in May (78), when the first wave of the pandemic was still affecting activity. There were most in-surgery appointments in November (256), and least in September (24). The increase in in-surgery from October onwards is partly due to the additional APPs in Cohort II who consulted via telephone triage from early in the rotation.

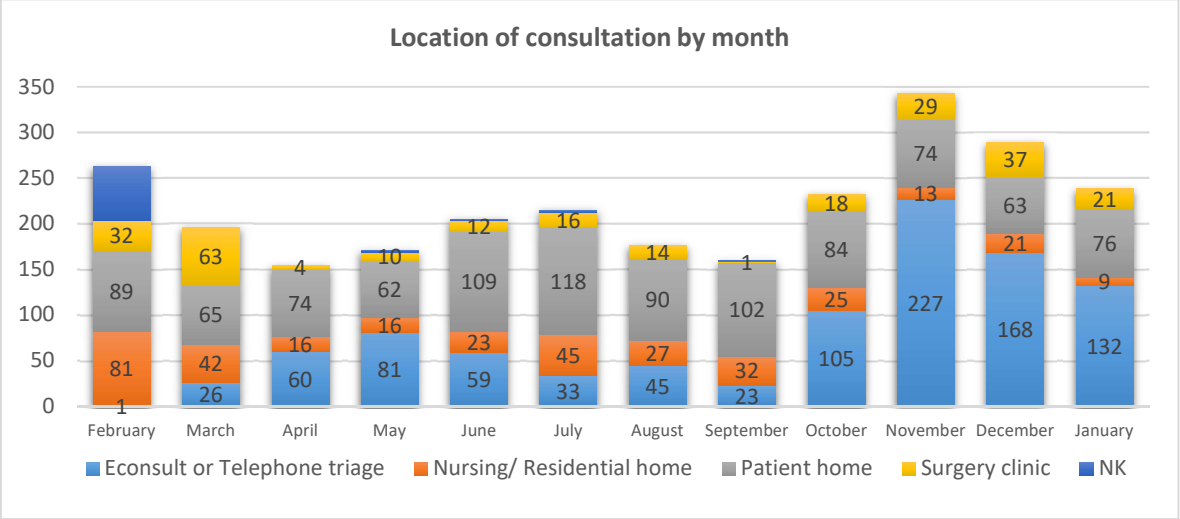
Proportionally, in-surgery percentage was highest in November and outside-surgery in September.



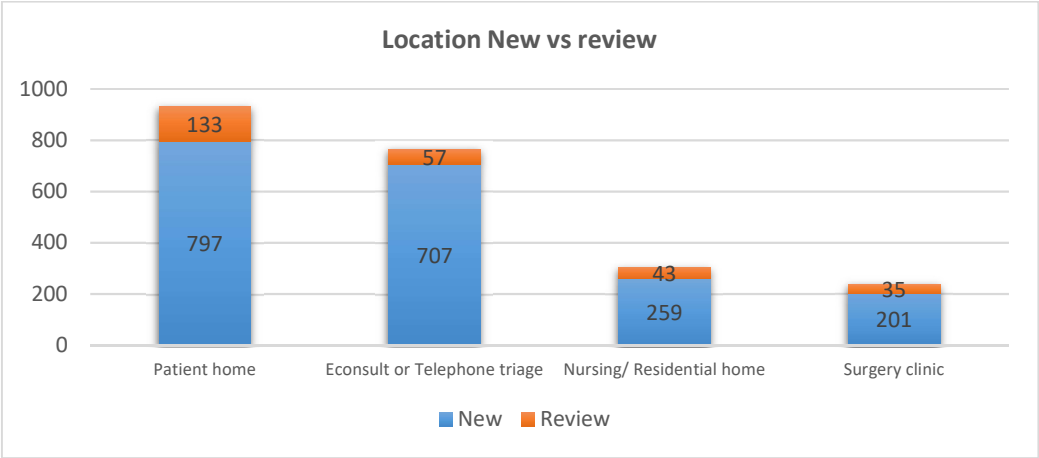
The location by month is broken down in more detail below. The graph shows the growth in telephone consultations following the start of the pandemic (peaking at 227 in November), and reduction in visits to nursing/residential homes from 81 in February 2020 to 9 in January 2021. This was partly to minimise visits to reduce risk to residents, and due to Conwy West APPs switching practice and moving away from a home visiting model.

Proportionally, surgery appointments have remained low since April, as many patients are able to be managed via telephone appointments. The number of monthly visits to patient homes has reduced since October, the reason for this is not clear, but may be partially due to the changes to the APP model in Conwy West.

Some APPs had annotated a telephone triage entry to state that the patient was subsequently brought into the surgery for review, but it was not possible to capture this quantitatively using the current data collection form.

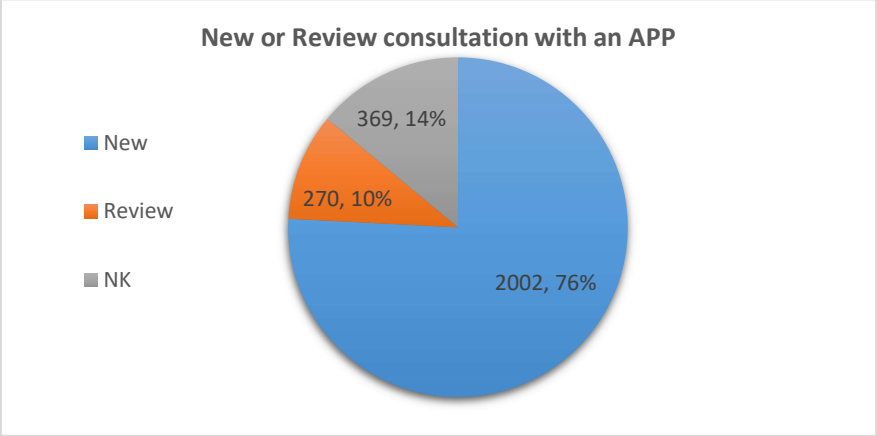


Where the location was documented, the percentage of new patients was 85% for all locations except eConsult /Telephone triage where it was slightly higher at 92.54% (and 7.46% review).



New or Review

Of the APP consultations in the last year, 2002 (75.80%) were new, 270 (10.22%) were review and the remaining consultations were not classified. Almost a third of the unclassified consultations took place in February and March when APPs were adjusting to using the new data collection format.



Presenting complaint

Initially the APPs were required to select the presenting complaint from a number of categories. This proved to be time consuming and sometimes difficult to categorise or capture the essence of the presentation. Instead, APPs completed a free text description, this was uploaded to NVivo software and the most frequently occurring words are represented. The larger words are those occurring most often.

It indicates that cases APPs are seeing most often are respiratory conditions, pain and UTI. They are also seeing high numbers of confusion, dermatology, mental health, abdominal, and viral complaints. The smaller words are indicative of the breadth of the APP role in Primary Care for example neurological, optical and palliative care.

Outcome of Consultation

The outcome was documented for 2404 (91.03%) patient consultations.

There were 4 main categories for APPs to classify the outcome of the consultation:

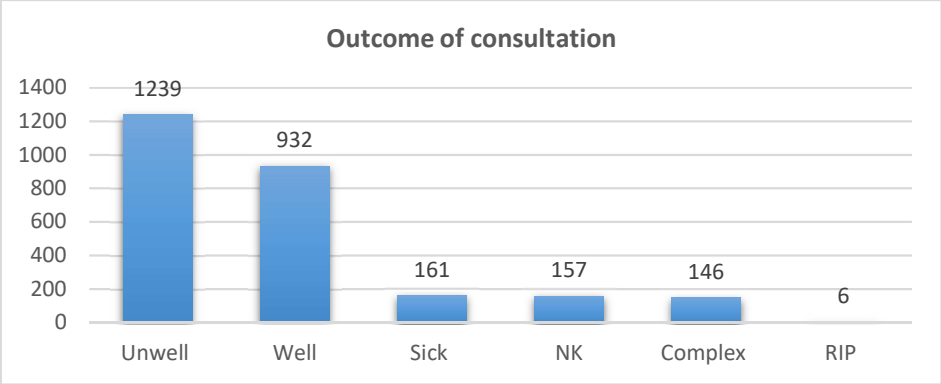
- Unwell patient but fit for management at home
- Well patient requiring reassurance / self-care advice

- Sick patient requiring escalation of care to secondary care for admission
- Complex / difficult patient requiring senior discussion / direct supervision

In addition, APPs documented 8 visits to confirm a patient death. There were 157 (5.94%) consultations not classified.

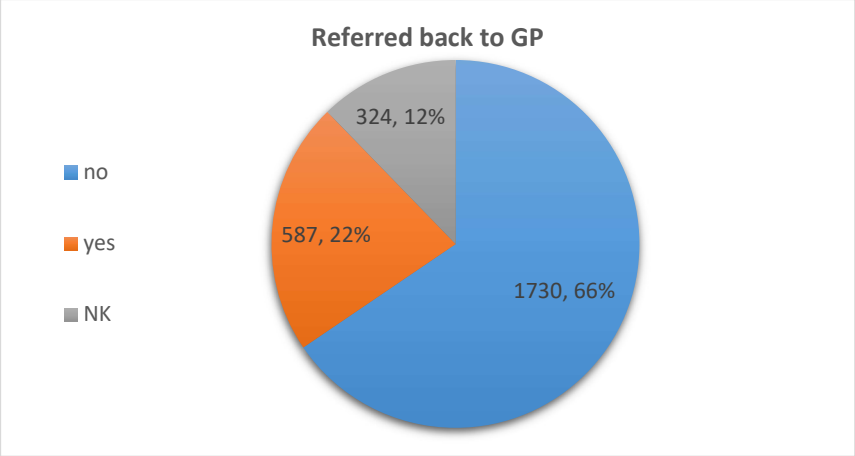
Almost half of patients were classified as being unwell but able to be managed at home, and just over a third (35.29%) were well and seeking reassurance or advice. Only 307 (11.62%) were most poorly patients categorised as sick or complex.

For 137 sick patients (85.09%), the visit took place in the patients usual residence. The remainder were surgery clinic and telephone triage (12 each/7.45%). This compares with 77 (52.74%) of complex cases being seen in a nursing/residential or the patient's own home. However, 83 of these patients (56.85%) needed APP referral back to the GP for advice. The proportion was far smaller for unwell (377/30.43%) and well patients (80/8.58%).

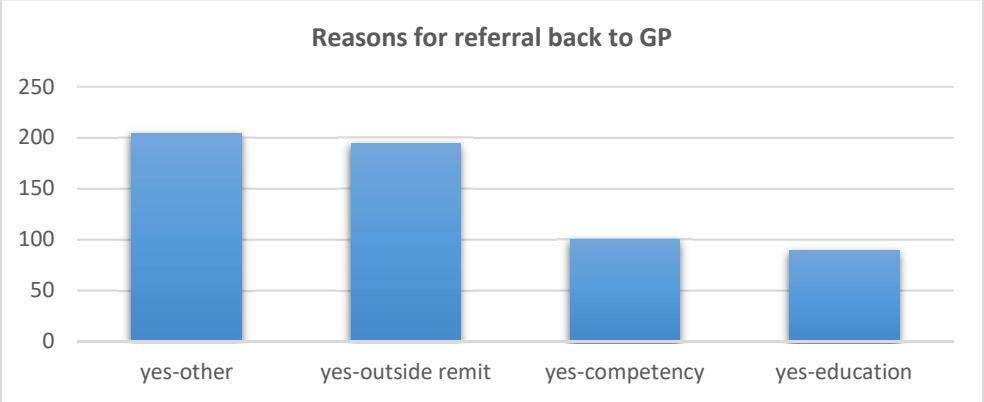


Referrals back to GP

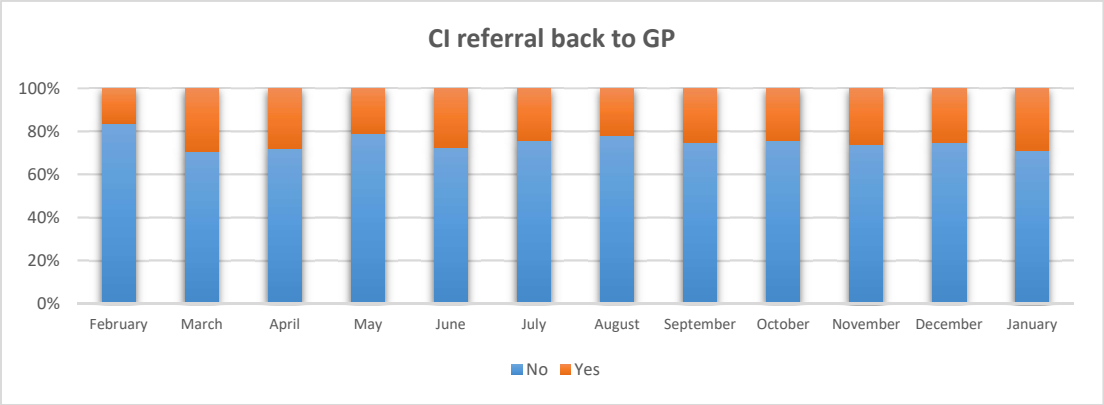
The APPs were able to manage two-thirds (1730) of patients without referral back to the GP.



Of those referred back to the GP, most were classified as 'other' reason (204/34.75%), and least (89/15.16%) due to educational gaps. During a discussion with Cohort I about their structured Pacesetter education, they emphasised that the clinical education provided during Phase I of the project was effective, but acknowledged that there will always be cases which need referring back to GPs due to the varied nature of Primary Care.

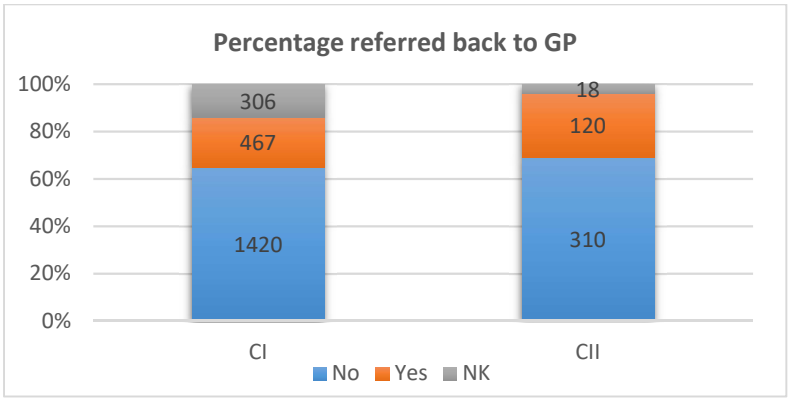


The referrals back to GP were plotted for Cohort I only, as more established APPs. The graph shows that from March 2020, the rate of referrals back to GP from Cohort I has remained steady at between 20 and 30%.



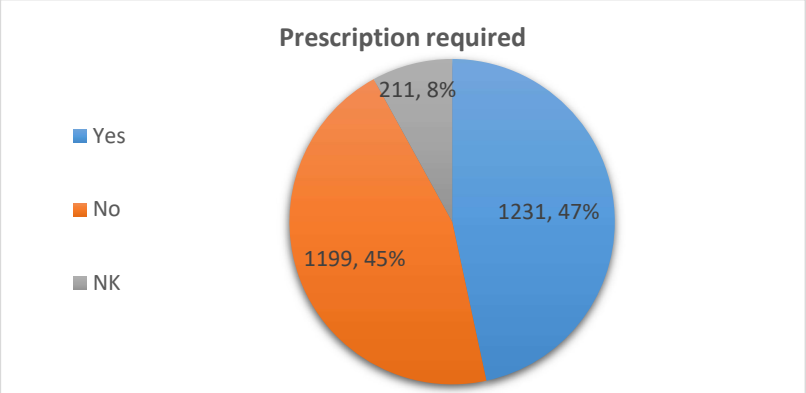
The figures were compared for Cohort I and II. Cohort I referred 21.30% back to the GP, compared with 26.79% for Cohort II. The figures for Cohort I may be affected by the higher proportion of missing data.

The percentage not referred to the GP was higher for Cohort II (69.20%) than Cohort I (64.75%).



Prescription required

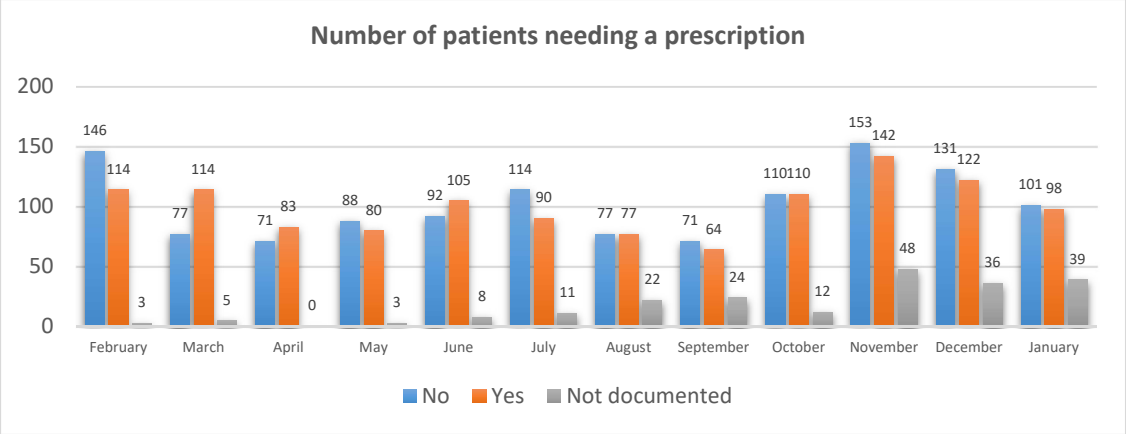
The prescription detail was recorded for 2430 (92.01%) of consultations. With missing data included, there is an almost equal split of patients who did, and who did not require a prescription.



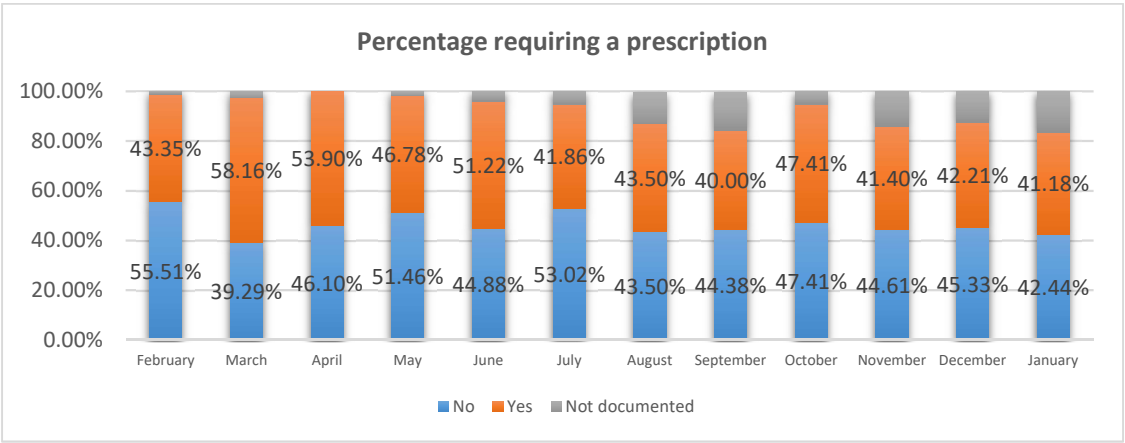
There was no particular trend in numbers of patients who require a prescription, it followed the same pattern as overall activity, varying by month.

There were seven months where there was a higher number of patients who did not need a prescription, than those who did, and two months were there was an equal number did and did not, require a prescription (August and October).

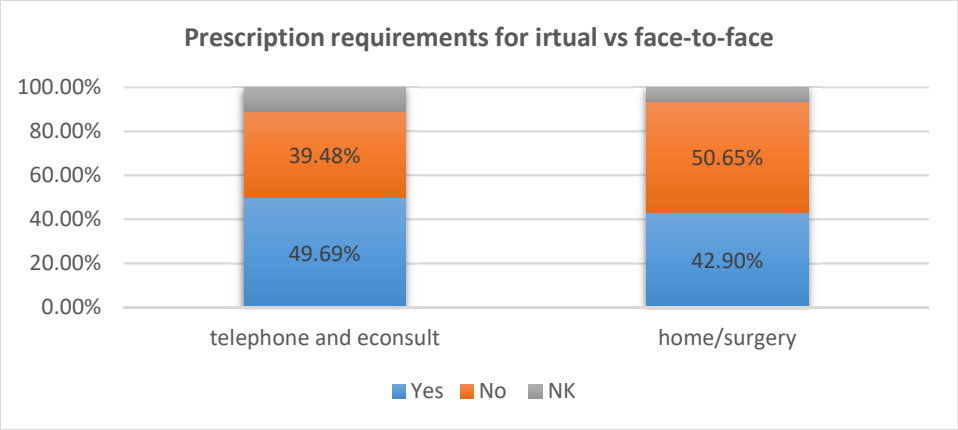
There have been higher numbers of missing data since September 2020. More was missing from Cohort I than II during this time (137 items compared to 22 for Cohort II).



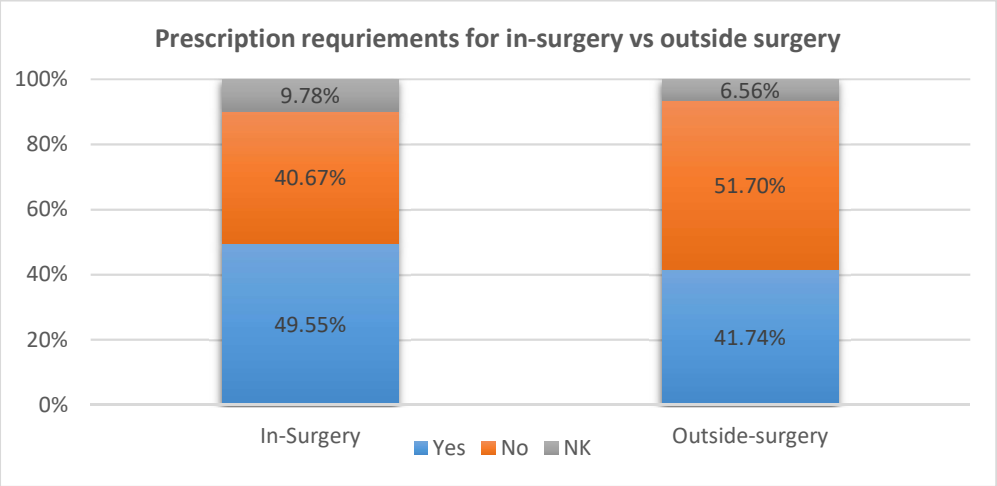
Expressed proportionally, the percentage that didn't need a prescription ranged from 39.29-55.51%, and the percentage that did was 40.0-58.16%. As with the previous graph, the missing data from September onwards has affected true figures.



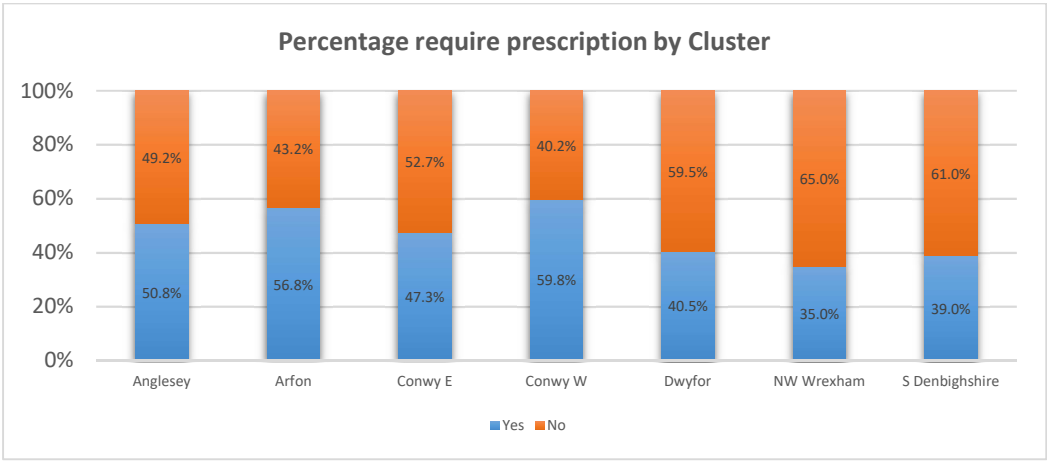
Telephone triage and eConsult resulted in a slightly higher proportion requiring prescriptions, compared with those consulted face to face in surgery or on home visits



Consultations in surgery, either face-to-face or via telephone triage/eConsult required a higher percentage of prescriptions (49.55%) compared with visits undertaken in the patient home or residential/nursing homes.



There was variation between the Clusters in the percentage of patients needing a prescription. It was lowest in North West Wrexham, and highest in Conwy West and Arfon. Arfon is the only Cluster with an APP annotated as an independent prescriber during the period covered by the data.

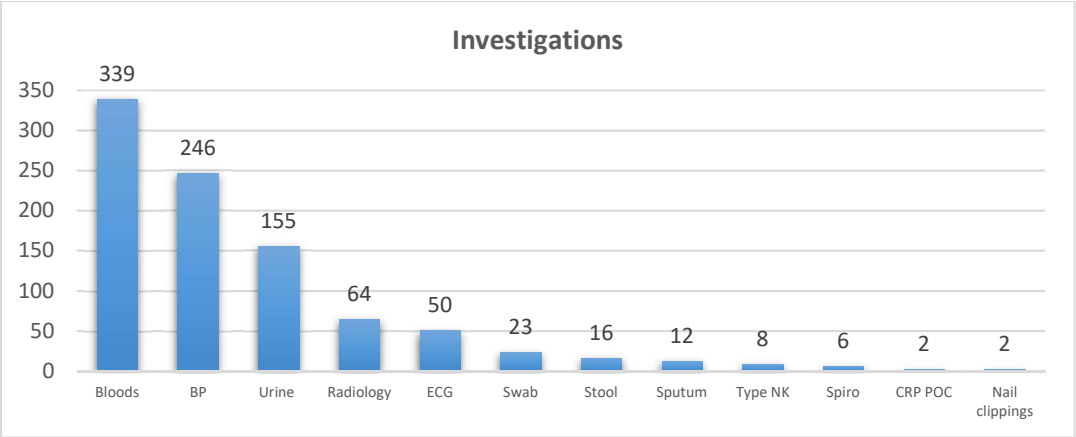


Investigations

In total there were 953 investigations requested by APPs, and 153 patients (5.79%) required more than 1 investigation. The most frequently requested item was blood sample, followed by BP. Some APPs were trained, and achieved their Phlebotomy competencies after observing the benefits of the skill in Primary Care (it is not required for their WAST role), and to streamline the service provided to patients.

There were least nail clippings, and CRP point of testing, which was only available to one APP.

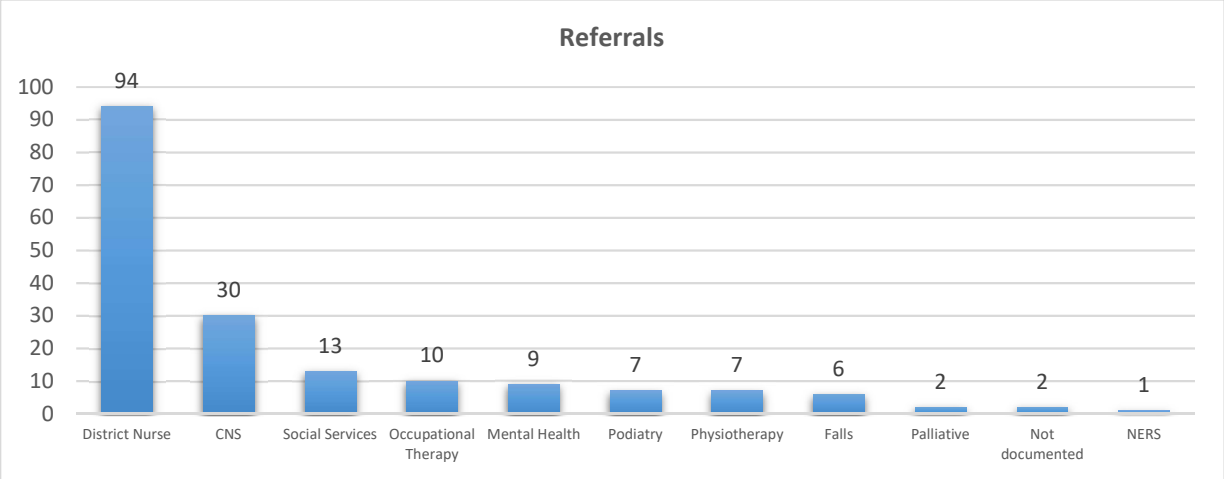
Some APPs only included detail of tests and investigations in the free text annotation. They have been included where possible but the actual figures could potentially be higher.



Community referrals

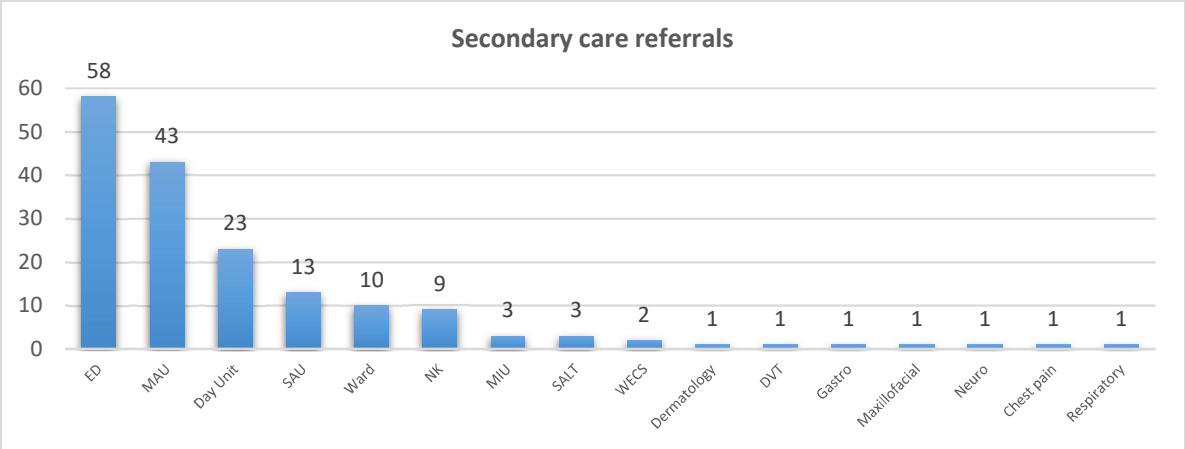
APPs made 181 community referrals, 14 patients (0.53%) were referred to more than one service. District Nurses received over half of the total referrals. There were fewest for NERS (National Exercise Referral Scheme) and Palliative Care.

As with annotations, some APPs only recorded detail in the free text annotation, they have been captured where possible but the true figure may be higher. The APPs have also spoken recently about their improved knowledge of community services so it is possible they were restricted by drop-down options and did not record any other service.



Secondary care referrals

A secondary care referral was required for 171 patients (6.47%). The most common service referred into was ED, for the most sick patients. There was some variability in services between different Cluster areas for example the Day Unit was only documented in North West Wrexham, and MIU in Conwy West Cluster.



Conclusion

The data indicates that APPs have now completed over 5000 consultations in Primary Care, which is a positive milestone for the Pacesetter project. Missing data means the true figure is likely to be considerably higher, even accounting for some periods of sickness. Cohort II have worked on the Pacesetter rotation since September and have demonstrated how previous Primary Care experience means they were ready to practice independently in Primary Care, sooner than Cohort I.

The APP activity over the last year has been impacted by the Coronavirus pandemic, and this is reflective of overall changes for Primary Care during this time. For the APPs, the introduction of telephone triage has been beneficial, drawing on some of their triage skills from WAST, and providing the opportunity to consult a wider range of patients and presentations. There was wide variation in activity between the Cluster areas, but the introduction of telephone triage had contributed to the high figures in Conwy West where over 70% of appointments were telephone triage or eConsult. In addition, there was a clear link between Clusters with lower numbers of consultations but higher rates of home visiting and associated travel, particularly in the more rural Clusters (Arfon and Dwyfor). The appointment length was not documented for enough APP appointments to produce meaningful generalisations.

In the period covered by the data, just under half took place in-surgery, and just over half, outside-surgery. Overall, there were most appointments undertaken in the patient home. Visits to the patient home have reduced considerably over recent months due to a change in placement for Conwy West APPs and it will be interesting to review changes to the data over the coming months.

It was not possible to capture presentations quantitatively due to the diverse and complex presentations in Primary Care. However, the word cloud provides a good indication of the most common presentations, and could be used as an educational focus for future Cohorts. Over 82% of patients were classified by APPs as well and seeking advice or unwell but fit to stay at home. This would support the findings in the word cloud which indicate that much of the APP workload in Primary Care is managing conditions such as viral illness and infections.

Approximately one third of patients were referred back from APPs to see a GP, with most documented as being 'outside APP remit'. APPs acknowledged that there will always be cases where they may need to seek advice. The proportion referred back also remained fairly stable over the 12 months. Similarly, the percentage of patients who require a prescription has varied over the last twelve months but there is no identifiable pattern indicating there is an increasing or decreasing trend and is overall almost equal at approximately 50% did, and did not require a prescription. Previously APPs documented around 40% of consultations requiring a prescription and this change is likely due to the increase in telephone consultations for minor illness.

In terms of investigations, blood sample was the most frequently ordered investigation. Some APPs have undertaken phlebotomy training but it's not known how many of the samples were drawn by APPs. District Nursing and ED were the most commonly referred to services. APPs have spoken recently about better awareness of Community services and relationships with Primary Care colleagues and there may be a wider range of services documented in future.

The last twelve months has seen great change for Primary Care, however for the APPs their role has expanded and capacity increased. Cohort I is relatively new to the Primary Care rotation but have had a strong start in terms of activity. It is anticipated that the next twelve months will bring more stability to Primary Care and the NHS in general post-pandemic and this will be reflected in the APP activity data.

APP Reflection: 'Am I supporting others?'

Background

The first Cohort of APPs were invited to complete a reflection asking 'am I supporting others?'. At the time the reflection was requested, two APPs were redeployed into WAST full time to support the Covid-19 pandemic response. The content and style were left to the discretion of the APP.

Methods

Data from the reflections aimed to fulfil parts of the APP element of the evaluation framework. The methods were approved by BCUHB Information Governance team, and data collection and reporting was undertaken within the remit of a service evaluation. The reflections were each coded manually using NVivo software. From the codes, thematic analysis (Braun & Clarke, 2006) was used to arrange the data into seven themes included in this document; understanding the APP role, Pacesetter exposure, holistic patient care, transferring learning, MDT working, mentorship, and dissemination. Each is outlined in more detail below. Five of the seven APPs completed a reflection.

Understanding the APP role

The APPs gave a broad description of how they are deployed operationally for WAST, utilising their advanced clinical and leadership skills to support colleagues. The acquisition of skills in Primary Care has provided them with an additional level of knowledge they can call upon during WAST shifts.

"*The APP role involves expanded clinical expertise and often provides clinical leadership at scene. Support provided to crews is informed by advanced knowledge and clinical skills often gained in Primary Care. …The current set up allows for operational support to include both diagnostic support and clinical intervention if crews request APP review…. The CCC aspect of the rotation offers WAST staff access to a telephone support line that provides a forum for clinical support discussions and troubleshooting. …This form of clinical supervision is often very structured and involves providing specialist advice to staff empowering the concept that no decision should be made in isolation. These are often complicated and multidimensional cases requiring a high level of autonomy, responsibility, accountability and decision making in conditions of uncertainty."* APP1

"*Whilst working as an APP within WAST I am supporting Paramedics, Emergency Medical Technicians and Urgent Care Service crews in their rational and safe decision making regarding whether the patient requires admission to secondary care or if appropriate referral can be made to Primary Care or to allied health care professionals. Within this role staff are not educated but rather encouraged and supported to make the right patient centred choice. …Further support is given whilst working within Clinical Contact Centre."* APP3

"*When working as an operational APP, I mix with a range of staff and feel happy answering crew room queries as well as discussing incidents attended with other crews, especially where more inexperienced crews have dealt with a complex incident beyond their scope of practice. When in CCC, I can provide clinical support to crews calling in with queries regarding patient care. I also support dispatch staff and call takers with clinical queries*." APP5

From a personal perspective, the APPs are conscious of how the role requires them to develop skills in each of the four pillars of advanced practice.

"*Advanced practice is a level of practice that focuses more on developing autonomy and progression through critical thinking, and complex decision making to develop service provision and patient care, which is evidence based. Not only does this focus on clinical practice alone, but also focuses on research and sharing knowledge, but also developing others through leadership and education*." APP4

The APPs also recognised how they can support non-clinical colleagues to offer advice or guidance, and personal development opportunities for this staff group.

"*Support is also given to call takers regarding best outcome for patients, having the autonomy as an APP to advise and assist call handlers in making challenging clinical decision which may be outside of their competency. …Identifying high risk patients within the waiting call stack also aids control dispatch staff to recognize and to respond to the most appropriate patient requiring the most urgent response, during these roles time is taken to explain to control staff the rationale for these decisions, therefore increasing and underpinning their personal knowledge*." APP3

"*Often staff request advice and guidance referencing the suitability of transporting crews, response times, clinical appropriateness, clinical terminology, acuity levels etc*." APP1

The Primary Care Multidisciplinary Team (MDT)

The APPs benefited from inclusion in the Primary Care multidisciplinary team, which increased understanding of their AHP colleagues roles, and improved navigation of Primary Care. In turn, their colleagues learned from APP expertise, and more about the ambulance service.

"*Whilst working in Primary Care allied health care professional are both a source of knowledge but are also supported by the APP within the surgeries. Often the APP can identify and clarify testing Electro Cardiograms (ECG's), also as an APP challenging patient's problems or issues are seen in a different light to that of allied clinicians, that can lead to an alternative and enhanced patient outcome*." APP3

"*Sharing information has helped to develop knowledge within the Primary Care team I work within. One such area especially has been around the ordering of ambulance transport for admissions, especially as surgery staff were not fully aware of the different scopes of practice. By ensuring the right transport is ordered allows for a more timely response avoids unnecessary multiple vehicles with the right skills and leads to increased patient satisfaction." APP4*

"*Within my Primary Care placements, I can provide insight into prehospital practice, which helps dispel any misunderstanding between the two services*." APP5

The Pacesetter project provided a level of exposure that enabled the APPs the to establish connections with MDT colleagues and provide care efficiently.

"…It is through collaborative working such as the Pacesetter Programme which allow individuals to understand each other's abilities, the resources that are available, and by sharing information. [It] allows for care that is right for the patients needs, is not duplicated by multiple contacts, is cost effective and ultimately leads to patient satisfaction in the care they receive – the principle of a good prudent health care system." APP4

Transferring knowledge from Primary Care to WAST

Much of the learning from Primary Care was centred on operational knowledge and availability of services for staff working in the community.

"*I have been able to share some of my learning experiences and knowledge gained into how Primary Care works and services available*." APP4

"*The experiences gained from working in Primary Care provides the foundations needed to appropriately support staff with clinical decision making in the community, that often involves appropriately sign posting crews to the most appropriate course of action*." APP1

The APPs experienced growth in confidence as a result of increased knowledge and were empowered to support colleagues, particularly around treatment advice and alternative dispositions available to the patient.

"*The experience that I have acquired in Primary Care has expanded my range and depth of knowledge and I feel more confident in supporting colleagues, empowering individuals to work to their full scope of practice and feel better placed in advising if care/treatment at home is suitable or whether care in secondary care is required."* APP5

Importantly, one APP reflected on the importance of sharing knowledge responsibly and within the governance boundaries.

"*…need to be aware at this stage on how this shared information is used, especially within a clinical context. If it's to be expected that sharing knowledge will help others in making decisions it will need to be safe and have governance in place*." APP4

The experience gained in Primary Care was transferrable to WAST, for the APPs own practice and in terms of sharing their learning with other ambulance based staff.

"*The Primary Care rotation facilitates work based learning, allowing clinicians to strive for continued growth and knowledge providing the core skills to underpin transferable clinical competencies to WAST….Acquisition, retention and transferability of both the knowledge and skills gained through this experience is invaluable. The transferability … to WAST staff is evident, supporting care-related activities both directly or indirectly*." APP1

One APP cited social prescribing in as an example of how professional connections from their Primary Care rotation benefitted other WAST staff, and patients.

"*I have been able to share information within my WAST teams that I have gained from Primary Care. One such example is access to social prescribers who deal with things such a loneliness and social isolation. Having had contact through my Primary Care work I have developed contacts within the [area] social prescribing scheme whom are happy to accept referrals from WAST staff. This can be seen not only as helping WAST staff make appropriate referrals, which is part of their HCPC requirements.*" APP4

Pacesetter Exposure

Working on the Pacesetter project exposed the APPs to new ways of working and patient presentations.

"*The pacesetter rotation offers repeated exposure to the management of common and important conditions and participation in management afforded over the course of the rotation amounts to a structural form of learning*." APP1

"*…The Pacesetter programme has greatly enhanced the author's clinical practise, and having been exposed to new (compared to traditional paramedicine) ways of patient management, the author is able to not only improve their own patient management, but hopefully also able to inform other HCPs of new and improved ways of assessing and managing patients*. APP2

The structured Pacesetter education programme was praised in terms of formal learning, and as a safe environment for informal discussion with other Pacesetter APPs.

"*… The author is also undergoing weekly training delivered through an external GP-led company. The practitioner is asked to consider certain medical conditions each week, and then to actively discuss what has been learnt in the following session. This aspect of learning has been extremely useful, and provides a platform whereby the practitioner can share and learn from other practitioner's experiences, and discuss in an informal, yet beneficial environment.*" APP2

As a requirement of the project, the APPs have supported evaluation tasks undertaken by the project team and those undertaking external evaluation. They acknowledged its importance in optimising success of the project and delivering outcomes which will be of interest to the paramedic community.

"*As part of the pacesetter project, APP's have been required to gather data into their activities. This collaboration is still in its infancy in terms of realising the benefits if any to the healthcare system. By providing regular data it should help the project team to evaluate if the project is meeting the aims and objectives it set out and if necessary make continuous adjustments when moving into the next phases."* APP 4

The experience was described as a steep learning curve, and it will be important to consider APP needs, as well as their transferrable learning and support of others.

"*The first stages of the pacesetter project have been a steep learning curve into new ways of working; it has enhanced my clinical knowledge certainly in managing uncertainty and risk*." APP4

Holistic Patient Care

The APPs have been able to call upon their advanced skills to provide a holistic approach to patient care, consider their wider social or care needs, and consult the patient in making decisions.

"*The trainee APPs have been asked to consider more holistic management aspects of patient care, including those sometimes difficult discussions whereby the initial thought of the prehospital practitioner may be to admit the patient to secondary care. However, further consideration of the patient's condition, the patient's own wishes, as well as informed and shared-decision making (i.e. co-production) can, and often does, lead to an alternative and satisfactory disposition for the patient. …One such area often overlooked is that of sometimes relying upon the medical model of patient care to achieve 'favourable' patient outcomes. ….However, there are many occasions whereby other non-medical interventions such as self-management support, especially useful in the management of chronic disease, can be of immense benefit. This can help the patient by reducing the need for medical intervention and giving them some ownership of some aspects of their medical problems, especially those whose condition has an underpinning biopsychosocial element*." APP2

"*until recently paramedics did not have the knowledge or access to the true extent of what holistic healthcare provision was available and likewise, other healthcare providers did not fully understand the abilities and differing practicing levels of ambulance clinicians.*" APP4

APPs saw themselves as being able to support patients well, often through having the opportunity to spend longer consulting patients than other practitioners.

"*The patients who are seen by APP are supported. With enhanced knowledge and diagnostic skills, the APP can also afford more time to each patient in explaining and rationalizing their shared decision in making their treatment plans*." APP3

Mentorship

The APPs recognised the importance of GP supervision and informal consultations with practice staff to enhance their learning experience.

"*The training received during the Pacesetter programme, as well as the additional clinical input from case discussion with the GPs in the various surgeries has served to greatly enhance the practitioner's clinical knowledge*." APP2

"*The lesser direct form of supporting others is evident in the practice that provides case specific feedback by means of reflective discussion where staff prompt the question 'What would you have done in this scenario?'*." APP1

The reflections from one APP recognised how clinical experience was an essential factor in supporting others.

"*Arguably, clinical teaching and providing clinical support starts with the essential ingredient of clinical experience*." APP 1

APPs described how they provide mentorship to colleagues at various staff grades.

"*Mentorship opportunities have also been relevant to the Trainee Advanced Paramedic Practitioner, Newly Qualified Paramedics, and Student Paramedics, in the form of designated mentor status, operational shadowing and academic support*." APP1

"*During his time as a registered healthcare professional, the APP has often undertaken mentoring for different grades of staff involved in prehospital care, and these include trainee emergency medical technicians, newly qualified paramedics, urgent care service members, as well as those staff who may already have been qualified for an often significant period of time. …One such area in which the practitioner is currently providing support is by acting as a mentor for those APPs who are currently undergoing their University training. …The practitioner has provided scenarios for the trainee APPs to work through, using the author's newly-acquired skills and knowledge. These scenarios have included practical tips gleaned from the GPs and other health-care professionals, as well as the latest evidence-based guidance from various healthcare organisations*." APP2

"*Mentoring and encouragement are also shared with fellow APP's and trainee APP's, by supporting each other, encouraging shared knowledge and ongoing personal development. Student paramedics have also been supported in both their educational and practical development to become fully qualified, with sound and robust underpinnings from a senior clinical source*." APP3

"As part of the new UCP induction there was a requirement for the person to shadow the APP's within the Cluster. It was recognised that the UCP had not had any extra assessment skills above standard paramedic training so there was a requirement to teach some of the skills….1 months mentorship and coaching was provided to help them settle into the role." APP4

Dissemination

There was some consideration for the wider impact of the Pacesetter project, and their work, to raise the profile of the APPs and project at a regional and national level.

"APP's have actively supported others to develop a much broader understanding of advanced clinical practice as a discipline which contributes to faster learning curves and results in better trained staff. …Looking more broadly, other opportunities have arisen for members of the team to add to the existing evidence base of advance clinical practice by taking part in national research conferences, University lecturing, posters presentations and clinical support groups, going further to support advanced clinical practice locally and nationally." APP1

"The second year of the project will focus on the clinical leadership element of advance practice, and through some established networking it may be a way forward to share information more formally with the development of well-informed multi-professional working which has robust governance and audit in place." APP4

"[I am] working towards an "Honorary Lecturer" status within the local University. WAST staff working towards this MSc are further supported and helped through lectures and assessments, making myself available to students who require further support or information." APP3

Conclusion

The APPs had free choice over the content of their reflection and on the whole, the focus was on supporting others in a clinical or professional capacity. Much of their writing described supporting others in their WAST role, which is understandable given that the ambulance service has formed the basis of their career, and that two-thirds of the rotation on the Pacesetter project is based in WAST. They described their role supporting colleagues of all staff grades, (including those who are non-clinical) during the course of their work in the Clinical Contact Centre.

From a Primary Care perspective, the main support mechanisms were in terms of offering their specialist skills such as ECG interpretation. There was a reciprocal benefit particularly between the APPs and Allied Health Professionals who learned more about each other's roles. The APPs were also able to advise on efficient use of WAST services to the benefit of the ambulance service, and patients. Much of the transfer of knowledge back to WAST described in the reflections centred on clinical competencies, as well as awareness and signposting to community services such as the social prescribing service where a pathway had been established for other WAST colleagues to utilise the service. Some APPs reflected on the care they provided, and perceived that their increasingly holistic approach would improve the patient experience.

Working on the Pacesetter project was described as "enhancing" the practice of the APPs, and equipped them with skills and knowledge which they looked to share with colleagues. The education sessions were provided face-to-face prior to the Coronavirus pandemic, and added a layer of informal

APP support, where they had the opportunity to discuss experiences with others working on the project.

As advanced practitioners, the APPs were all mentoring paramedic students in the ambulance service. More widely, they supported healthcare students in academic roles and others looked to promote the Pacesetter with conference posters and presentations. Despite being over a year into their Primary Care rotation, some APPs reflected on how they still looked to GPs or other practice staff for advice, or for informal discussion about their experiences.

Throughout all the main themes, there was an emphasis on considering alternative care pathways and reducing conveyances to ED or secondary care. This is in partly through better knowledge of local services, but also through APPs having increased confidence in their own practice which enables them to work differently.

References

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Paramedics in a Pandemic – APP involvement in the COVID-19 pandemic response in Primary Care

Background

The COVID-19 pandemic presented challenges to healthcare providers across the world. The APP Pacesetter project team were keen to capture the unique experience of APPs in Primary Care during the height of the pandemic in summer 2020 and learn more about their contribution to service delivery.

Methods

The proposed topic guide and interview arrangements were agreed by the project team. They were also reviewed by a representative from BCUHB information governance department, and the clinical audit department, and it was agreed that the work remains within the remit of a service evaluation. This item had not been included in the original evaluation framework as it was developed in 2018, before the pandemic. However, it was agreed that it would be valuable to capture the APP experience from this unique time.

All Cohort I APPs were invited to be involved, six APPs took part in a one-to-one interview conducted over Microsoft Teams. Interviews were recorded and transcribed verbatim. The transcripts were manually coded using NVivo qualitative data analysis software and analysed using principles of thematic analysis (Braun & Clarke, 2006). The findings were arranged into seven themes: how Primary Care experience prepared the APPs, 'red hubs', safety and wellbeing, WAST rotation, partnership working and GP support, post-pandemic improvements, a new normal and looking to the future. This report also outlines the role of each APP during the pandemic, and their greatest learning from the experience.

The APP role in the COVID-19 response in Primary Care

APP 1 – "I purely concentrated on the home visiting aspect"

"I *wasn't seeing so many patients coming into the clinic…I purely concentrated on the home visiting aspect during the Covid outbreak in my Primary Care role. Previously, I was seeing patients on a clinic basis in the morning, followed by the home visiting in the afternoon… the full shift was allocated to the home visits. So that gave scope for the doctors to get the home visits in a lot earlier. It also gave them scope…' to put it onto my job stack for the next day. So on some days I'd go into work I'd find that I'd already had three jobs put onto home visits for me. Other days, they would triage on the day and put them early on the morning. Anything I can do to support the pandemic I'm more than happy to do so. I think it's worked really well."*

APP 2 – "[GPs] would send them to the red hub, to assess them and deal with them from there."

"when this pandemic kicked off initially the head of the Cluster put the feelers to the doctors and the advanced practitioners to see if anybody would be willing to work in a red hub that would assess patients to reduce the face-to-face time of GPs in the Clusters. I think the GPs were going to try and assess and treat over the phone initially. But if they weren't sure, or if there weren't any ambiguities then obviously they would send them to the hub …In March, I think the symptoms weren't clear. A lot of other things came in… we would assess them in the hub using the full PPE…We had, in the beginning, two advanced practitioners and a doctor that was there daily …It was just an APP there in the end…we would get the patient in, assess them outside the building. We'd do the initial checking, the oxygen saturation and temperature and listen to the chest or whatever in the little outside area. But if we did need to, sort of examine further with abdo pains or whatever else, then we would invite them into the hub."

APP 3 – "it was business as usual with PPE"

"Prior to Covid happening, it was planned and anticipated that me and [other APP] would be forming the home visiting service on behalf of the Cluster. GPs would triage jobs on the day, and [we] would go out and act as their eyes and their ears…Covid started. We were still asked to go out to the different patients, but we'd be wearing the amber-level PPE as a precaution. So, gloves, fluid repellent, surgical mask, and apron… It is business as usual with PPE. … our clinical practice incorporated some slightly different way of assessing patients. If they're a bit short of breath, we might want them to run or walk up and down the stairs for a couple of flights to see how it affects their oxygen levels and the breathing rate, whereas we may not have done that for most patients with a chest infection. … We've just had to be aware of the infection prevention control risks, and make sure we're wearing the PPE. But the actual jobs have been carrying on as normal."

APP 4 – "a bigger Cluster than usual came together, we'd have a hub where query Covid patients would be seen"

"I've mainly been working in Primary Care...A bigger Cluster than usual came together…when instead of query Covid patients going to each and every surgery, we'd have a hub where query Covid patients would be seen or we would go out to see them if they were so unwell that they couldn't attend the hub. …initially it was manned by an APP, an ANP and a GP. So then we would work for seven different surgeries. We joined all the EMIS together so we had one login for all the details. It was a patient centred approach. It was the best approach that we could've devised to meet demands of everyone.."

APP 5 – "changed it overnight, from seeing everyone to telephone triage"

"GP-wise, they sort of changed it overnight, from seeing everyone to telephone triage consultation, really. So the care home visits were pretty much dried up overnight and are still quite few and far between because there's much less footfall in the care home. The workload did drop drastically across the board initially…. We want to expose staff to as little patient contact as possible…. Some of the telephone triage might need a face-to-face so then bring them in so I can see them myself, here, which is quite good. I've got involved in stuff like the booking side because we have to phone people, see what bloods they need, book them into various clinics, print off the labels and stuff like that. It is quite a good balance…[The practice] set up a video consult thing here…I have used it for sending photos…Sore throat, skin lesions and things like that.."

APP 6 – "I've mostly been doing telephone triage … it makes you think. It's a different form of assessment."

"I've mostly been doing telephone triage… I'll work my way down the nurse triage list…. I've been into a doctors' triage and helped out but mostly our sort of forte lands in the nurses' triage anyway so I just focus on that…I've done a few home visits. I'm doing more, now, but certainly not as many as what we used to do. I see a few people in the surgery but nothing really related to Covid-19 because of the red hubs. …the surgery has changed a lot to what it was prior. Telephone triage has pretty much been my main thing Primary Care-wise…it's brilliant because it's a new - obviously it makes you think. It's a different form of assessment. But also, as far as prescribing goes it's really good because you're prescribing blind, really…we've done video consultations as well…and having pictures sent to you and then feeding back to patients as well… it's been really good."

How Primary Care prepared APPs

The experience gained between starting in Primary Care in June 2019 and the start of the pandemic in spring 2020 was described as having provided a 'foundation' and 'grounding' which helped the APPs navigate systems and services during the pandemic.

"*the stuff that I've done leading up has given you the foundation, really, to know the ins and outs of how the surgery works. It's made you aware of the pathways and the referring models and what specialists you can refer to. …I don't think we could've done it if we'd gone straight in at point of two weeks before Covid. I think that would've been overwhelming because you still wouldn't have a knowledge of the system and how things work. So I think that nine months was the grounding to know exactly how to orientate yourself and how to manoeuvre through Primary Care*." APP 2

One of the respondents described their work during the pandemic as "business as usual" with the addition of PPE.

"*It was just a case of us having to undertake the same assessment but be a bit more mindful of COVID in the background, and just having to do all these assessments with the different types of PPE on*." APP 3

Other APPS felt their skills and experience as a paramedic meant they were well suited to support the pandemic response.

"I spent a couple of years doing telephone triage for WAST anyway … I think we're quite good at being quite flexible and just getting stuck in… we're just quite adaptable as a workgroup. Just get on. …Each day is a bit different…..you've just got to realise that things aren't going to go as they used to and do the best you can in this different situation we're in." APP 5

"*we had a specific skillset anyway, and it suited the pandemic, really. So, yes, I think the way we work and I think the professionalism we've shown is appreciated by all the surgeries*." APP 4

Primary Care experience was said to increase their confidence in safety netting and to watch and wait rather than admit to hospital immediately. They also placed trust in the patient to follow self-care advice at home in the first instance.

"A *lot of the Covid-19 stuff is relatively minor. I think without the Primary Care exposure, you wouldn't have been inclined to have left as many people at home or maybe just told people to get on*

with it and see how the symptoms go…. if they're on the fence patients, where in the ambulance it's almost easier just to say, 'Look, I'm not too sure. Go to hospital and let them decide'. Primary Care exposure kind of give you that confidence to say, 'Do you know what, we'll just leave it 24 hours or 48 hours, see how you go'. …. allowing people to have a little bit of time and trust in the patient that we can safety net them and they'll follow that advice later on if they get worse." APP 6

Their Primary Care exposure and increased confidence also challenged the APPs to work safely outside their traditional paramedic scope of practice for example in the care of palliative patients.

"I consider myself quite autonomous as a practitioner. With paramedics, they've got guidelines… you've got to do this, you've got to do that. I don't do that unless I feel it's necessary… but I've got a good reason not to do things. I can justify, through research papers, why I haven't done a certain things. Challenge safely and in your own scope of practice. … one of the things Primary Care has taught you is, people are going to die. We can't save everyone forever. That's been the ethos, it seems, for years and years. We've got to try something instead of thinking, 'Why don't we just make them comfortable?'" APP 4

Safety and wellbeing

The APPs were honest in discussing some of their fears at the start of the pandemic:

"because it's a daunting thought initially not knowing what was going on, how bad it was…" APP 2

"It was good, interesting. A bit scary at times…." APP 4

Despite extensive media coverage and concerns over shortages of PPE, the APPs were supplied with adequate PPE for their work in Primary Care.

"*I think, as everyone did initially, at the very, very early stages of the pandemic, … media take over and they plant seeds in your mind, 'Oh, are we going to have enough PPE? Is it going to be suitable PPE? Is it expired PPE that's had stickers put back on to the boxes?' All that stuff did kind of implant itself a bit but practically and from an operational perspective, I didn't see any of that on the frontline for myself*." APP 1

"*I think the PPE was adequate. I felt reasonably confident with what I had. …I think we were fortunate in the fact that we did have things, a lot more than the ambulances did a lot of the time*." APP 2

"*I…had all the PPE I've needed*." APP 5

"*I was in a fortunate situation with the Clusters, where we had enough PPE."* APP 4

"Primary Care took a view that if you were seeing a patient, you wore …not the full suit, but basically a mask, visor, gloves and apron, to every patient. That's how our surgery have done it." APP 6

One APP recalled that there were delays at the start of the pandemic and some concerns around the quality of the items but the supplies were always available.

"*My only concern was that it took a while for me to get the correct PPE for red PPE. …I had to wait for the right equipment for me. …in terms of the usual-level PPE, we had some flimsier aprons to begin with, and then we had some more robust ones delivered, and I think at some point there was quite a real concern that the fluid-repellent surgical masks, and perhaps some of the FFP3 masks,*

were quite low in number. But an actual lack of those didn't ever materialise. …Always did have enough. But it was a close-run thing, I think." APP 3

"*we had a greater awareness of 'could this be COVID or not?' But because the symptoms of COVID are so variable, they mimic so many other conditions. So, so many people we'd go out to as APPs may have a chest infection or a water infection which can elicit high temperatures. A chest infection can elicit a cough. So, for those conditions where, perhaps, we wouldn't normally have been quite as worried or keen on to wear PPE, we found ourselves wearing PPE to every single job.*" APP 3

"*kit-wise and safety-wise, I've always felt in control of my own destiny, really.*" APP 5

In addition, there was some concern that APPs that they didn't receive guidance on using PPE.

"…We were never taught how to use it. We were never taught anything. I think we were given a YouTube video… who's to say I'm doing it right?...I think it should've been a structured thing to say, 'This is how you put it on, this is a scenario for you. You are seeing a patient. This is the equipment. Which one would you use in which circumstances?'" APP 2

The APPs were conscious of the impact of the pandemic on patients, and struggled to provide the usual level of emotional support wearing PPE.

"*Often, patients just needed reassurance, which was difficult to give with full PPE, but people were getting so anxious, so worried about it, they were isolating themselves. That was difficult*." APP 4

None of the APPs who took part in the interviews expressed concerns for their own safety but some had worries about contracting the virus and passing it on to family members, particularly children, and took extra measures for example stringent hand hygiene and changing out of uniform at work.

"*To a degree I felt safer because the patients I was seeing were query Covid or they were Covid, and you were more prepared. You'd have the appropriate PPE to see that patient… So, donning and doffing the PPE, hand hygiene was very prevalent. I felt fairly safe with the PPE I had and the surgery Cluster supplied us with good PPE anyway…My wife is a [healthcare professional] and she was working with Covid patients as well … she didn't seem to have enough….We were worried regarding bringing things back, but we decided to carry on, change, have a shower in an ambulance station, whatever, before you came home. Everything straight in the wash in a sealed bag. It worked. Initially it was quite fraught but after a while you tend to get used to it."* APP 4

"*I've got young children. So obviously, that affected me and I had to double think about things. But my ethos is, if you've got the right support with you, the right equipment and whatever else then somebody has to do it.*" APP 2

WAST rotation

During the interviews, the APPs were also asked about how the WAST aspects of the rotation had been affected by the pandemic. The most striking change was the high number of calls relating to respiratory complaints or Covid symptoms, and mental health problems.

"*doing a control shift, it was so different. It was remarkable, really, looking at the list of jobs that were there. They were all code 36 –Covid. Everything was Covid. Everything on the list. There was so much, I think, people phoning in being scared, can't breathe. It was either that or psychiatric issues,*

massive psychiatric problems. Obviously being locked down. …Depression, suicide attempts. …I saw a massive surge in that." APP 2

"*We were seeing possibly more respiratory clinical cases and managing them more so in the community.*" APP 1

"*I've seen more query-COVID patients when I've been on the APP car on the road sort of part of the rotation, rather than the Primary Care part*." APP3

Other APPs described the WAST shifts as being more normal operationally, other than increased demand, PPE and military support.

"*Other parts of the rotation, I suppose, operational no real difference that I've found but put on PPE every time, and how that affects things. I find I can't tolerate being in people's houses too long because they get too warm and I just can't think; I get flustered. And I suppose, control-wise, that hasn't really changed. Just more aware… Anyone who coughs in the room suddenly gets people staring at them!"* APP 5

"*So ambulance carried on my normal duty, really, although working alongside the military, obviously. …Early on, ambulance-wise, saw a massive surge in the amount of Covid-19 cases we were going to because we'd target the breathing problem codes and whatnot. … early on, I was travelling quite large distances to go to pretty healthy Covid-19 patients just to – I don't know, really. Couldn't ever really figure out why we were going to them early on because they were just quite well*." APP 6

"*Operationally, not much changed, really, it was just more to do with PPE donning and doffing and the military were brought in to support us with that aspect. …We were still as active as we were prior to the outbreak.*" APP 1

APPs were complimentary about the support provided by the military, who were prepared to support with driving and practical tasks such as cleaning down and donning/doffing PPE.

"*Obviously they've given us someone to ride with us when we're operational on the RRVs. you're on your own or mainly on your own, just an extra pair of hands just to help clean everything down, tie your apron, if you're on your own. And if you go to a job, cardiac arrest, where you need an extra pair of hands, they're already with you. They've been ace. Really, really good…they can help carry kit and … prepare stuff when you're en route. … they're really helpful. Really good with patients as well*." APP 5

"*They can drive on normal procedure. They can come in and they're great. They'll do absolutely anything for you, and they clean. I think really they were only put there to don and doff the PPE but they've taken on a wider role, so it's like having somebody in the car. So that's been pretty cool. We've had the Irish Guards in our region and they've been great*." APP 6

The APPs recognised why military staff had been drafted in but saw it as somewhat contradictory message at a time when social distancing was being encouraged and APPs would usually work alone on solo responding shifts.

"*you're sort of isolated when you're on your own in the car. When you've got someone else to sit really close to you, but then they tell you to stay 2 metres apart. …I can see why they've done it, but it's a bit of a mixed logic, really. It's there to help with don and doff PPE, prepare hands…And some company on long shifts is always quite nice."* APP 5

Some APPs discussed the difficulties finding a balance between maintaining personal safety and potential moral challenges in emergency situations, and how instinct or human factors have meant they made

"I think the consensus was, if we went to someone with a cardiac arrest, we would have to just stand by and stay clear until an ambulance crew arrived with the full red PPE, which sort of goes against the grain of our training a bit, but we have got to consider our own safety first. I think there was a bit of a, 'What would you do if it was a child?' I think pretty much everybody would have probably jumped in, PPE or not, or red PPE or not. … where do you draw that line? And I don't think it was ever successfully considered or addressed…it's probably just by good luck, rather than good management." APP 3

"I went to one lady. It was a diabetic emergency... Got to the scene. Then you put the mask on, I was putting the apron on, and her son ran out and said, 'She's gone into cardiac arrest. Can you hurry, please?' Someone doing CPR on her. I couldn't justify not going into the house, …It wasn't appropriate. I suppose it was appropriate, but on a human factor, we did resuscitate them successfully but I didn't have my full PPE kit, which, in hindsight, I would've done it again. But it's difficult. There's massive challenges with things like that. In our line or work, people do get ill quickly." APP 4

"*I've had quite a few cardiac arrests during this, which is a really stressful job anyway, but with the PPE situation that was even worse. …Having to pull up outside someone's house and then start putting PPE on was pretty horrendous because they used to get quite cross with you and agitated*." APP 6

Some APPs found frequent changes to procedures in the ambulance service challenging. This was perceived to be due to the novel nature of the virus and evolving situation. Staff were provided with additional time to catch-up with emails at the start of shifts ensure they were up to date with changes to policy.

"The only thing is, they kept changing the rules constantly as they were getting more evidence based. It was quite hard to keep up with all the guidance at one point, and I think WAST did actually change their policy on start of shift to say that they were going to give us more time to read our emails at the start of the shift because of the policy changes coming in so thick and fast. That was helpful from an operational perspective." APP1

Establishing 'red hubs' (Local Assessment Centre)

Several of the Cluster areas established a Local Assessment Centre (also known as 'red hub' or 'red zone') where patients showing symptoms of Covid-19 could be assessed. If patients were too unwell to travel to a red hub, the APPs still offered a home visit.

"*If… there was a significant possibility of the patient being COVID or had met some of the triggers such as a loss of smell or taste, or a cough, or a high temperature, those patients would be directed through to the COVID hub. We were given a …tour of the facility, explained how the physical and temporal segregation would happen with patients, and our PPE. Patients would be referred to the COVID hub by their own GPs. A secondary triage would take placed by the COVID hub GP.*" APP3

"*if they weren't sure or if there weren't any ambiguities when obviously they would send them to the hub, the red hub, to sort of assess them and deal with them from there … It was just a focal point. It's difficult to find an area that would accommodate everybody, but I think people, when they're that*

concerned, obviously they will travel if they can. But if they couldn't travel then we go up to them." APP 2

The APP recognised that providing a centralised service saved them significant travel time but they were conscious of perceptions of the hub being under-utilised as the throughput wasn't as high as initially anticipated.

"*I couldn't say a figure but initially it could be may five/six/seven…But I think in the end it came to maybe two or three a day. …It wasn't horrendous but taking the factor of the geographical locations we were going to, if we were doing a home visit, then the time would be taken, obviously, to travel there and do whatever. People can criticise it about the money but they'd be the first to criticise it if they wouldn't have been able to cope. It's difficult to keep a balance*." APP 2

"*…they were anticipating the numbers to be hundreds seen in a week, and those numbers just didn't materialise. I think that most patients I saw in a 14:00 until 18:00 afternoon were probably five patients*." APP 3

Elsewhere, one surgery set aside an area in the practice for those with symptoms who were well enough to call into the surgery.

"*we had our own in-house red room. Any patient who had Covid-esque symptoms…for example if they had a child with a temperature or any type of symptoms like that, we would ask them to come down to the surgery and the on-call doctor would see them at the end of the day. I would still get involved with what we would classify as a red patient, but if they couldn't come down I would go out to see them*." APP 1

The success in one area resulted in the facility being retained once the levels of Covid reduced, to serve temporary residents over the summer months, which also helped reduce pressure on GP surgeries. The APPs supported the service when required.

"*The [red hub] facility is still there to use. We've kept it pretty much as it is … because this area is very beautiful and obviously a lot of holiday makers come here. So, over the summer we've used it as a temporary residents service. So instead of them going into the general GPs within the area and saying, 'my little Johnny Boy is ill' then we would tell them to go to the hub …we would assess them there and organise from there. If I'm not [busy] then I'll ask them you know, 'Do you need a hand?' Or if they're struggling they'll give me an email …So I'll try and do a phone consultation with the temporary residents if I can in between my patients just to help the TR service*." APP2

Partnership working and GP support

The APPs reflected on working relationships they had built during their time in Primary Care. Initially there had been a sense that they had to prove themselves. Over time, GP trust and confidence in APPs practice had a positive impact when working together during the pandemic.

"*I'd like to think that [APP] and I have demonstrated that we're pretty good, and we know where we are, we know what we can do. We know we're not GPs, but we're also experienced APPs, and I think that has started to shine through. And then, the other GP surgery thought, 'Well, actually, we might be missing a trick, here,' and then our work was included within all of the GP surgeries within the Cluster…we have probably had to prove ourselves*." APP 3

"*It was good, because most of the GPs I'd worked with before and they knew they could trust me and I knew how they worked. A lot of the work with Primary Care GPs is knowing your GP, because*

everyone is different. … So it was just working with them and working closer with them and getting to know other GPs within the Cluster. It was a positive thing. APP 4

"*Having worked in Primary Care before going to the hub you know who you're talking to. You can put a face to a voice, a voice to a face and you sort of get to know them a little bit and they got to be a little bit more confident about our abilities. …. I think that was good for them, good for me. It was having the confidence to be able to chat freely like this*." APP 2

"*If they're asking you to go and see someone, it's that level of trust, isn't it, between you telling the doctor and them believing that you know what you're talking about…You're not missing anything that's serious*." APP 5

"*You become more confident speaking to GPs and maybe not your own team, but I could quite happily phone a surgery and say, "I'm an advanced practitioner," and just reel off some history and build their confidence. I think you get that from Primary Care as well. You kind of learn how they feel and speak. When you then try to pass them a patient back they tend to be a lot more receptive to accepting it. A lot of them hadn't heard what advanced paramedic practitioners were at the start. … Everyone is used to seeing us as paramedics.*" APP 6

This also highlights the importance of raising the profile of APPs and perceptions of the role beyond the traditional paramedic profile.

Working closely with GPs in the red hubs in particular, was thought to have reduced any sense of hierarchy between staff groups.

"*They were very, very thankful for us and appreciative and they were very supportive as well…. When it closed on Friday, everyone was, WhatsApp-ing you, 'Oh, thanks very much for your work and your input'. It was quite humbling and a bit embarrassing, really…we haven't got such a hierarchy now…Everyone is first-name basis…It's just, you're talking to a colleague or a friend… It's built up a very good network.*" APP 4

"These guys volunteered with us as well… you do get to know them at a personal-ish level. And it's great, I think, because when ideal with them now back in Primary Care. Obviously I feel a lot easier and sort of know them a bit better." APP 2

During the pandemic, some of the APPs spent more time in surgery performing telephone triage rather than home visits. This meant APPs became a more integrated member of the team and surgery staff got to know them better, and were more aware of their strengths to call on an APP when needed.

"*Now I'm around the staff all day every day. So if any trauma comes into the surgery now, they ask me to go….they've got a better understanding… they had a paediatric arrest at the surgery…I was the first there on the ambulance so I took over that because I kind of barged them out of the way and said, 'This is now my field'. The feedback – that certainly helped me because they maybe got to see what we are about, if you know what I mean….I'm not saying that everyone needs a job like that to build their confidence but that helped me massively because they kind of saw what we were about in that situation." APP 6*

APPs still looked to GPs when they were unsure how best to manage a patient but to a lesser extent as they gained experience in Primary Care. GPs were a source of reassurance, particularly with regards to difficult decisions and conversations that the APPs wouldn't have been happy making independently

"*if we've gone to a patient that's quite poorly, as paramedics, we're pretty good at recognising the acutely ill person. …But it's the patients who sit in-between the ones who are really poorly and obviously need hospital and the patients who are quite clearly not that poorly and are fit to stay at home. …I think, 'Right. No, I need to speak to a GP, here, and just get their take on this, and what do they think.'….the GP's greater knowledge will actually say, 'Well, have you considered this?' and sometimes we'll go, 'Oh, no, I didn't even know about that,' …We're all human…as we have gained in-. 'Confidence' is the wrong word, but as we've gained the experience, I suppose, we haven't needed that to quite the extent"* APP 3

"*There was often some quite difficult decisions to be made… These were quite tough decisions, you know, whether to tell a family, 'we're gonna just take them there and not actively treat them'… They wouldn't have been decisions I would've been happy to make on my own without someone senior confirming with me, 'Yes, I think you're doing the right decision'"* APP 4

The APPs also discussed the level of support they received from Primary Care, and were generally satisfied but knew where to access it if required.

"*The support has been fantastic, mentorship has been fantastic. We've had a couple of sad cases, as well, from a palliative perspective, but the support has always been there*." APP1

"*I feel that it's easier for me to ask for support and help in Primary Care, now, because the relationships are there. I can speak to anyone ….the surgery – Primary Care – have been great. …Been really good. ….They've asked us all the time if we're alright, do we need anything, bought us scrubs. Just little things like that*." APP6

"*we're told about the changes that are going on. And how they want us to work. It was a little bit vague initially but I think no one really knew so we couldn't really blame anyone because no one had the answers anyway*." APP 5

"*I'm not a person that needs a great deal of support. I think it's been good. There's always been someone to talk to, be it either [APP], the clinical lead, or Duncan. I'm sure they'd pick up the phone. Colleagues as well, fellow APPs are always available for a chat. The GPs, other healthcare workers that we've worked with, it's all been good. I've never felt isolated or upset …. I talk to my wife as well. You kind of safeguard yourself and protect yourself, identify early on in your career that you need and what you don't need, and then just work on what you need and forget about the rest*. APP4

Post pandemic improvements

Changes to practice as a result of the Covid-19 pandemic have led to positive unintended consequences which were captured during the interviews. An example of benefits to patients was APPs being able to undertake home visits earlier in the day which meant further care and procedures could also be instigated earlier.

"*I'd be seeing my first patient sometimes by 9:30…some patients liked that, others didn't like it. The other benefit of it was, sometimes we were triaging quite sick calls which were more urgent then the receptionist would put it through… "this sounds really bad, can you please prioritise this patient first?" And there's been some cases where I've gone out to palliative cases and we've been able to instigate end of life care a lot sooner and earlier in the day, whereas that would probably have not happened till the afternoon if that was the case*." APP 1

Patients also had a shorter wait for appointments when compared with pre-pandemic levels which was thought to meet patient needs better. This was attributed to a shift in the surgery whereby many patients can be safely consulted via phone meaning fewer people need to be seen face-to-face therefore increasing capacity.

"Now, *you can phone up at 3:30 and the doctor will phone you back within, probably, half an hour / an hour. I think they're probably meeting patients' needs better now than they were when they were doing face-to-face slots*… "*I think they're realising now that you don't need to see everyone if they want a sick note. There's lots of things that can be done safely over the phone, leaving the small proportion of things that may still need to be seen. But then they're actually being spoken to, and so when you see them you're not having to re-go over everything. You just examine and then things seem to be a bit slicker*." APP 5

The transition to virtual and telephone consultations also afforded some APPs increased autonomy and the opportunity to make changes which improved their experience.

"*It's quite weird because it was very limited to what they were happy for us to see…But then you come in the next week, it's suddenly changed to not seeing people."* APP 5

"*We stopped the multiple [Pacesetter] surgeries early on. That was more pushed by myself because I felt it was inappropriate, that while everyone else was closing doors, reducing risk, reducing contact, I felt that we'd be better to serving one. … I've had a million times better experience since being… with the one surgery …You don't build up that rapport, the trust, the supervision. The sort of teamwork, the communication, all that is lacking if you're doing multiple surgeries…once you got to an individual surgery, I just felt that the relationship is so much stronger. They include you as part of the team*." APP 6

Some APPs described seeing patients with presentations that they would not have usually consulted pre-Covid for example paediatric and palliative patients.

"*We were seeing a lot more of patients who would possibly be inappropriate to bring into the clinic because they were shielding… An example would be, I saw a child out on a home visit – I don't think I'd done that previously. …because the other brother was shielding so it was more of a danger to bring the mother and the child out to see us than it was for us to go and see them.*" APP1

"*I have seen a few palliative patients, but whether that is because we have now been exposed to, perhaps, more palliative care because we've gained a bit more experience and the GPs have gotten to know our strengths and weaknesses. …they're comfortable with us going to see more complex patients, obviously, under the caveat where we can refer back to them straight away, I think there is an element of them gaining trust in our abilities*." APP3

"I've been doing a lot more getting GPs doing do-not-resuscitate orders identifying patients that are frail, that are not for escalation, and embedding this within the nursing homes. So if they do become grossly unwell, have we got a plan in place? …you can arrange with the home and say, 'Well, if this happens, you can give some oxygen. Get them comfortable. Don't phone an ambulance.'" APP 4

"*[Pre-pandemic] we'd been asked to see lots of elderly patients in care homes. When I started talking to people on the phone….. I wasn't as slick because I was missing out some things that were relevant. Say, a young woman possibly being pregnant, that I'd never dream of asking someone who's in their nineties. I did feel that it did expose the fact that I hadn't been seeing enough in the preceding months to get an all-round feel of Primary Care*." APP 5

It was thought that seeing a broader range of patients played to their strengths as an APP.

"*In terms of looking for what I'd what in year two… I want to see more. I want to see all ages. I want to see more of a breadth of what I am doing now, which is more of the minor illness stuff, which is sort of where our strengths lie, I think…. I've learnt a lot doing that but I don't think I'd be learning enough….I think it's kind of worked quite well here*." APP 5

One APP described how reduced bureaucracy due to the urgent nature of the pandemic meant changes could be implemented which streamlined processes and improved efficiency.

"*it's been really positive and it's been a good way of working. We've managed to reduce so much red tape. …We've managed to do one Covid EMIS system, which you use one password, one login, and you're into all the surgeries…. we're going to continue with this home visiting hub idea. So, there'll be slots for patients to fit into, the surgeries will put them in. It doesn't overwork us because all the surgeries can access it and see how many patients are down for visits. …Covid has been a terrible thing but you've got to say there'd be some good to come out of it. There's been not much bureaucracy and faffing about. Things had to be and they were done and not worrying about litigation and various things like that.* APP 4

From a personal perspective, APPs spoke of improvements to their own practice such as increased confidence, autonomous working and clinical decision making either due to the work or increased number of consultations.

"*I've seen more of how the practice works as a whole*." APP 5

"*It's definitely made me feel more confident in my clinical decision-making. It's built on my confidence, being more autonomous and making these higher clinical decisions… just because pushing the boundaries a bit more. Because of the work or possibly seeing more patients than I would on a normal home visiting day….*" APP1

A 'new normal' and looking to the future

At the time the interviews were undertaken during the summer, the APPs were unsure how their role would be affected in the long term but anticipated that surgeries would continue to undertake virtual consultations, utilise triage systems and require PPE.

"*I don't really know what their future planning is. There's more patients coming in. The red hubs are obviously the surgeries where we are now, so red patients are brought in as well. I'm not sure what the plan is. They've got an e-consult there now but that's not for us.*" APP 6

"*They had a meeting yesterday that we were part of, just looking at which routine things they can ask to bring back in by the health board, I think, and a plan of action to get up and running…We're nowhere near back to what it was, yet. I suppose it's just introducing the most important things first and then see where that takes us….I don't know how it's going to work in the future where there's going to be a middle ground of a lot more telephone consults than there was beforehand. I spoke to another practice today …Their visits are still quite low because the doctors are using a lot more video and phone consults. Especially for nursing homes, they don't want us there and we don't want to go there. So everyone seems to be quite on board with doing it using technology, which is good*." APP 5

"*they're still doing quite rigorous triaging in the morning. The setup is still the same. But I think they might adopt this as a general way of working moving forward, to be honest with you…*" APP 1

"*We're still going to see the patients, we're still wearing our PPE there in patients], and I can't see that changing for a significant time. …And do we have a working vaccine? Until those questions are answered, it's going to be PPE, really*." APP 3

One APP reiterated that their experience hadn't been very different during the pandemic but that they were enjoying the Pacesetter rotation.

"*It has all been very good, very interesting, and we've loved it. COVID hasn't really been the main focus…I would like to do a few more consultations back in the surgery at some point, but I think the fact that we're out on the road mimics our usual role quite well, anyway. It sort of fits, glove in hand, hand in glove. It's what we do…It has been a thoroughly enjoyable 18 months*!" APP 3

Another expanded on how their practice had changed, their enthusiasm to share this with colleagues in the ambulance service and the beneficial impact that small decisions can have on the wider healthcare system.

"*It just gives you this more holistic view of everything that you can do and your own potential of what you can do to treat patients. I think it's important to feed it back to the ambulance service, as well. It's like, you go to a nursing home. …99% of those patients aren't for any escalation, …you've got to accept they're coming to the end of their life. It's quite frightening the number of staff that convey patients from nursing homes to hospital. …Where, it's not good for the patient, it's not good for the ambulance service, it's not good for Primary Care, it's not good for secondary care*." APP 4

In hindsight some of the APPs recognised scenarios which may have improved the situation at the time and provide learning opportunities for future.

"*We never did the Covid tests initially, which is a great shame, I think*." APP 2

Learning

The APPs were asked to reflect on what their greatest learning had been from working through the pandemic. The responses included resilience, managing risk, improved practice, increased confidence, awareness of their limitations and improved communication and networking skills.

"*I'd say how resilient we have been across the board, really. I was expecting it to be a worse response than it actually was from ourselves. I thought that we'd be more overwhelmed and the rats on the sinking ship, if that makes sense. Whereas I think we've been very resilient and we've maintained a high level of service throughout the pandemic*." APP 1

"*We were so scared initially. I remember the first job I had, it was with an RRV. I put everything on. Whatever I could find on, whatever, and getting patients to -. I was probably to the extreme. … I probably looked like an alien walking into the house, probably. I think at the end, we get slightly complacent with some things, possibly. I just think, 'Should I have done that? Should I have worn this for that?'…what I've learnt is to analyse what you're going to and to look at the possible risks and to try and cover those risks…. And not to be complacent, because you never know what it [patient presentation] is*." APP 2

"*You do give something to a Primary Care team and I feel a lot healthier in my practice and how it – than maybe it was before this started. That's my biggest take-away from it. My confidence is a lot bigger and a lot better if you know what I mean. And I think that transfers when I go back to the ambulance as well…I feel that my job time is right down. I'm not there that long, now. A lot more tailored*." APP 6

"*More confident and competent…especially now I'm able to see more patients…I feel a lot more confident in my ability…to integrate into Primary Care, which I didn't before. …I felt a little bit of a bit part, a little bit of a nuisance. I felt like, 'Well, I'm doing their rubbish jobs so they'll tolerate me'… Never really felt valued as a Primary Care practitioner prior to Covid-19, but integrating into a single team, I certainly feel now that I'm making a difference in the surgery, which is good…The best thing about Covid-19 was, my placement got sorted …I've sort of landed on - Jackpot, really. I'm just learning and learning. It's hard work, don't get me wrong. I'm not sat round doing nothing; I'm literally flat out all day. I'd prefer to be that than sat around waiting to do a home visit which never comes in. It's been great. It's been fantastic*." APP 5

"*I think the biggest thing for me is I'm now more aware of knowing what I don't know…. For me, I don't think the COVID experience … has changed my practice, really, apart from I'm more PPE aware and more infection prevention control aware, which has been good because, I think, sometimes, you can get a little bit blasé about the PPE. This has reinforced the need for good infection prevention control.*." APP 3

"*I've learnt how other people work. I've improved my communication skills, often to be more concise. I've learnt how to network well with others, as well. Patient skills have improved because I'm talking through a mask to most of them these days and goggles and things… My IT skills have also improved with the new systems. I've learnt a great deal. I learnt a lot about Covid……Yeah, a steep learning curve. I've learnt a lot more about drugs, blood tests, what to do and what not to do. So, it's been really good*." APP 4

Discussion and conclusions

Throughout their time on the Pacesetter project the APPs have all followed a different model of implementation for the Primary Care aspect of the rotation. This was also true for their experience during the Coronavirus pandemic where each played a different role supporting the local response from working in red hubs to delivering a home visiting service. Due to the rapid changes which took place, it also offered some APPs the opportunity to expand their skills and experience, undertaking tasks they hadn't previously such as telephone triage and having difficult conversations about end of life care decisions with patients and their families.

Although nobody could have predicted the pandemic, the nine months in Primary Care prior to the outbreak were said to have provided a strong foundation for the role they took on. In particular, their experience supported navigation of systems, and decision making around safety netting, meaning they were more confident to keep patients at home where safe.

The APPs were honest sharing their personal experience of working on the frontline during the pandemic, describing it with terms such as 'daunting' and 'scary'. They expressed no concern for their own safety but some worried for their family. There had been early concerns around PPE supply which were unfounded in Primary Care. One of their greatest challenges working on WAST shifts had been a moral dilemma between immediately attending seriously unwell patients, and the need to protect themselves with PPE before entering the patient home.

All of the APPs demonstrated flexibility in taking on new roles such as assisting in the red hubs which opened to provide care to suspected or confirmed Covid patients. The patient throughput to the hubs was not as high as anticipated and some closed early. However, the APPs gained a great deal from networking with GPs and Primary Care colleagues, which they will be able to carry forward. Despite having spent a number of months working in practices, they APPs appreciated continued GP support

and advice, particularly with complex, and in turn built the respect of GPs who trusted APP decision making.

An unexpected consequence of the pandemic was that Primary Care restructuring had led to a number of benefits for patients, in particular improved access to appointments, and keeping patients at home where safe and with the necessary plans in place. The APPs noted improved autonomy, communication skills, decision making, and the opportunity to extend their scope of practice and consult a wider range of patients.

There was some uncertainty how and when Primary Care services would resume or continue in future. All APPs were asked what learning they would take away from the experience. The responses ranged from demonstrating resilience, to improved clinical practice, and becoming more embedded in Primary Care, indicating that many of the APPs experienced professional growth during this period. It also highlighted that in some cases, the APPs may not have been previously utilised to their full potential either due to perceived inexperience in Primary Care, or misunderstanding around the role.

As this work was performed under the remit of a service evaluation it is acknowledged that the findings cannot be generalised beyond this group of practitioners. It does however; provide a personal insight into the experience of a group of advanced clinical practitioners new to Primary Care.

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Cohort I Focus Group - Perception and management of risk

Background

In Phase I of the Pacesetter project, the concept of risk management and perception of risk was raised numerous times in the data collection undertaken with the first Cohort of APPs. The APP Pacesetter project team decided to undertake a focus group during Phase II to investigate the concept in more detail and identify whether there is any learning, which could support Cohort II in their journey as new practitioners in Primary Care.

Methods

An interview schedule was agreed by members of the APP Pacesetter project team. It was shared with a project representative from the BCUHB Information Governance team, and BCUHB Clinical audit department who agreed the documents and process were acceptable from a governance perspective and that the data collection remained within a remit of a service evaluation. The concept of risk management had not been factored in to the original evaluation framework when it was developed in 2018, this was an additional item added to the framework for Phase II, and fulfilled items relating to the APP, and 'Am I safe?'.

All APPs from the first Cohort of the Pacesetter project were invited to take part. In November 2020, a focus group was undertaken on Microsoft Teams with five APPs from Cohort I. The focus group was recorded and transcribed verbatim. The transcript was analysed manually using NVivo software and thematic analysis (Braun & Clarke, 2006) was used to identify a number of themes from the data.

Results

Analysis identified six key themes; role evolution and engrained practice, continuity of care, Responsibility and decision making, GP supervision, Trust, and patient perceptions and accountability. Each theme is discussed in more detail below.

Role evolution and engrained practice

The first theme arose around the influence of their ambulance service career and how some of the traditional paramedic mind-set initially carried over into their role in Primary Care. All the APPs had extensive ambulance service careers before undertaking the additional qualifications to become an APP. The APPs reflected on how their experience shaped some long-standing professional fears about the consequences of adverse patient outcomes.

"*people weren't allowed to die in the ambulance service in the old days because, if somebody died, it was somebody to blame, and that was an old-school way of thinking. It is changing. … and it is evolving. But I think, sometimes, old habits die hard...if somebody died …You'd be terrified of people saying, 'Oh, you know, you're going to lose your registration. You'll lose your mortgage.' It never really happened, unless you were grossly negligent… which made managing risk difficult because you were always worried. I do believe that service is in a good place, now, to take more risk, because you are supported more and I don't necessarily feel as worried anymore. However, I have learnt that there is a way of managing risk, as well, so it's not just leaving someone at home with no plan. It's about where you send these people or what your follow-up is*." APP 2

Previously, the APPs would negate potential risk by taking the patient to A&E which was seen as the safest option but not always being in the patients best interest. However, over time, increased system pressure in secondary care has meant this no longer a feasible option, and the APPs have had to consider alternative care pathways.

"*historically, we have been both very protocol-driven, but also the perception has always been a bit of blame culture, so maybe you're a bit more inclined to take fewer risks in terms of discharging patients*." APP 5

"You can't get sacked for putting someone in a safe place…It's a poor way of thinking, really. It's not in the patient's best interest to think that way. So, I suppose we have to take a little bit more risk, but I suppose it's how you manage it, as well, and how you negate that risk by making sure things are in place." APP 2

"*There's also that phrase about no one has gotten sacked for taking someone to hospital, and that kind of-. Negate the risk by just taking them to A&E. But if you look at the state of hospitals, now, that's probably the riskiest place you can take some of these patients. So, it's turning on its head, really. So, if you can support someone at home, then that's probably the safest place for them to be in a lot of cases*." APP3

One APP spoke of changes in the paramedic role as a consequence of a shift in the types of patients attended by the ambulance service, and how managing risk has been a long-standing difficulty.

"*We have had to change, though, because our job has changed. When I joined, you went to emergencies, really, or you went to your falls, and you took most people to your local cottage hospital which was a mile away, and they'd give them a cup of tea and make sure they're okay. But obviously, those services have gone, now, and we have acquired a lot more people with multiple illnesses, and the chronically ill… the job changed so fast… it was all a bit new to us, and that supervision wasn't in place years ago, so you had to adapt yourself. So, that's always hard, managing risk in those situations, isn't it? ….risk has always been difficult.*" APP 2

Another APP proposed that rather than seeing a change in the patient presentations, the APPs perception of the patients has changed. Increasing demand and pressures on hospitals sometimes meant paramedics were encouraged to manage patients differently..

"*I don't necessarily agree that we're seeing a different sort of patient, now. I think our perception of those patients has changed…when we started, it was very much a case of you pick somebody up, you can take them to the cottage hospital, so you didn't necessarily need to think outside of the box and think of a creative way to manage them. …as the pressure has changed, we start seeing more cases and delays have started to increase, the pressure on us to make different decisions has changed. But we weren't really provided with that clinical support, or education, or development to do that.*

Having completed their Masters and gained experience working in Primary Care, APPs were more comfortable with providing care options other than hospital. However, they acknowledged that this is an expectation of all paramedics.

"*[Non APP paramedics] are… being put under pressure to make that change, as well, because of the delays, and it's either because they know they're going to be delayed or, as managers, the service are saying, 'Try and come up with alternatives—safe admission, avoidance kind of strategies—to leave these people at home.' But it's how you do it safely, isn't it? …Now, because, obviously, you've done your masters and you work in a Primary Care environment…as an APP, and it's just something you're much more comfortable to do. … And we are seeing more patients, admittedly, because of the*

increasing number of older people with chronic conditions... we're not thinking immediately, 'Stick them in the back of the ambulance and take them to hospital… APP 5

Continuity of care

One of the biggest changes to practice for the APPs incorporating Primary Care into the rotation was the continuity of care. The APPs had access to a full medical history and wider range of options available which they perceived to change the type of risk they were exposed to.

"*Primary Care know their patients and have a method of reviewing, whereas you only have one, single hit with a patient in WAST, so it makes a safe discharge slightly more risky. … in Primary Care, you can maybe just do a phone call the next day, or book them in with somebody else, and you know the patients, you've got a good history about them, you kind of know their conditions. So, that changes the type of risk that you're exposing yourself to.*" APP 2

"*You realise you missed something, to proactively contact that patient, as opposed to wait for that phone call to come back in…you can actually go and chase a patient down and do what you need to do if you've missed something the first time around*." APP 3

This enabled the APPs to be more considered in their management of patients. Where safe, they have the option wait, and defer decisions or treatment.

"*There is so much more 'let's sit and wait around and see what happens to the patient,' rather than 'we have to do something*.'" APP 1

Two of the APPs associated continuity of care with responsibility and an ongoing relationship with the patient.

"*if you don't know what's going on with a patient in Primary Care, you can instigate some investigations, maybe bloods, various samples, imagery. So, your continuation of care is there, …you're not just relinquishing future care for that patient*." APP 4

"*you get to see the outcomes, now, when you're in Primary Care, don't you?... In WAST it's either A&E or the doctor, 'Go and see your GP,' and that's it. You don't see those people again, do you? So, you don't know what the outcome was, you just move on."* APP 2

The APP illustrated an example of where they acted on their suspicion, and working in Primary Care meant they it was later confirmed their suspected diagnosis was correct.

"So, classic example, there was a woman in the surgery the other week… and she'd been backward and forward with varicose veins… She'd come in this day, ... because she said her leg was hot, and I went to the doctor and he says, 'Oh, this woman comes all the time with these. It's probably just a varicose vein.' But I just said, 'I'm not quite happy.' So, I sent her in and it turned out to be a-. Well, they know it was a significant DVT….it just makes you, I think, a better all-round practitioner." APP2

The concept of continuity of care was also thought to extend beyond Primary Care, where the APPs felt better able to link in with surgeries and practice staff whilst on WAST shifts.

"*It's a transferable skill, as well. It's something that we can link in with Primary Care as APPs. If I close a wound on an APP shift, I'll take a picture of that wound that I've close, how it was before, how it was after. I'll get the e-mail address of the surgery and I'll e-mail them the images and tell them that's what I've done, 'We need a DN for wound review within a few days.' Whereas, before, you didn't have that continuity.*" APP 4

"*I think it is transferable back to WAST. It's just thinking a little more laterally than usually. It's either, 'Well, they're going in, they're staying at home. Are we calling it the out of hours'*" APP 4

Responsibility and decision making

Working in Primary Care, the APPs took on responsibility for the patients they would previously have referred on to GPs. They recognised that working autonomously in Primary Care meant they needed to define a new baseline in terms of risk.

"*with WAST…If they need to see someone, you can always send some over to the GP….But now, we're acting on behalf of the GP… it's a case of we're making that decision…I think we're probably all establishing a new baseline from which to work…what we were all comfortable, before, with. I think we're all pretty good at managing risk before, making some decision which, perhaps, other clinicians may not have been as comfortable with."* APP1

"That has been one of the challenges, defining your own level of risk, because you need to have a few of those patients to see how to manage each one differently, if that makes any sense." APP 2

Despite their experience as paramedics, and time in Primary Care, working as independent practitioners, being responsible for decision making was a source of anxiety.

"*when you're actually the person making the decisions, there is always still that increase. I don't want to say 'worry,' but you've got to be extra thoughtful about your management plan and what you do with that patient*." APP3

Pacesetter offered a safe environment to approach risk differently, with the supervision available when needed. Taking a more autonomous role in overall care of a patient was described as increased risk taking by one APP, and as managing risk differently by another.

"now that we have developed so much, our level of risk-taking has increased. But it's calculated risk, and you're not going off on a folly of your own, if you like. You're discussing it with the patient, you're documenting it well… you're taking more autonomy—more risks, to a degree, but if it's something fairly simple, why should you need to run cap-in-hand to a GP on simple things?" APP4

"*It's enlightening because, when you get it right, it's great…. It has been done in a supervised way, hasn't it? Which you haven't had before. So, it does change your practice. I certainly take on more risk, now. Well, I think I manage the risk better, should I say. Not take more risk, manage it better and manage it differently. So, it's not just a case of, 'If it comes back, phone back.' I think as APPs you make more of a plan with a patient, as well as the safety netting. So, the risk is there, but it's managed differently, I'd say, rather than just accepting it*." APP2

The perception of risk was thought to change over time as they became more experienced in Primary Care. It was attributed to exposure to GP and ANP standard of work and management of risk, reassurance from senior colleagues, experience in Primary Care.

"*your perception of what risk is changes after a bit more experience, and knowing that what used to be risk to you maybe isn't risky to somebody else because they agree with your treatment outcome. So, I'd definitely say, now, I close, and treat, and investigate a lot more patients autonomously than what I did at the start of the Pacesetter… a year of seeing that time is a healer and time is also diagnostic. That allows you to take a bit more risk*." APP2

"*it has just changed over the year. And I suppose, because you're exposed to the GPs and the practice ANP work, their level of risk rubs off on you, I guess. You see what's normal, maybe, and work toward that…I can't think of one, specific case that I thought I'd do it differently because of that experience. I think it's just a gradual evolution for me*." APP3

"*Secondary care, you have a whole raft of tests, be it radiology, blood tests, you name it, that's at their fingertips, whereas, GPs, yes, they can order the tests, but they haven't got there straight away. So, an inherent part of their job is they have to live with that risk anyway, and it's something that they have to manage when they first become a GP. And I suppose some of that is rubbing off on us.*" APP1

Having more time to make decisions, APPs reported that they were more considered in their decision making and took into account a wider factors influencing patient situation or health.

"*I'm looking at decisions now slightly more. I'm not necessarily just focused on the there-and-then about the patient, but there are other factors in the patient's life which are influencing their position which, perhaps, wouldn't have played such a big part in my decision-making earlier on. Having more in-depth conversations about their future wishes. Yeah, especially with the end-of-life or the very poorly and the frail. Those sorts of decisions are becoming a little bit more regular and a bit easier to deal with, now, whereas when we first had the discussions with end-of-life, it was a bit, 'Mm, right. Okay.' Not out of my depth, as such, but, again, it was unfamiliar. So, I think we're looking at situations more roundedly, now, and that's probably more intuitively, as well… I think that has changed my practice massively. I think we brought the lessons over to WAST.... It has made us better practitioners, hasn't it?*" APP1

APPs spoke of the sense of responsibility, and caution they felt when managing younger patients, through concern around the consequences of a mis-diagnosis. Working in Primary Care was thought to have altered their perspective on particularly for younger patients.

"*how dismissive are most people over a 30-year-old … phoning with chest pains? You go, 'Ugh, that's not cardiac'….I'm less dismissive as what I used to be, put it that way. Because I think, working in Primary Care, you do see that young people do get poorly and … get all sorts of horrible illnesses and problems that, maybe, we don't see …because they don't present to the ambulance as much as what, maybe, the elderly do. So, they're the ones that ring alarm bells for me …. There are catastrophic consequences to missing something serious in a 20-year-old, isn't it, who has got their whole life ahead of them…. as we get older, things do break down, and it's a little bit more, maybe, expected? …. A 90-year-old with pelvic pain in a care home and a 26-year-old girl with ongoing pelvic pain is very different… from my experience in Primary Care, we manage them very differently.* APP2

GP Supervision

The interview schedule for the focus group didn't explicitly ask about GPs or supervision. However, the APPs related a lot of their experience looking at risk differently, to their relationship with, and supervision provided by GPs since working in Primary Care.

Despite practicing autonomously in Primary Care, the APPs felt well supported by GP supervisors, with measures in place to ensure they are practicing safely.

"*You're more supervised in Primary Care, to be honest with you….they have invested and allowed me on my placement to manage my own workload, you actually end up managing more patients*

throughout, without having to contact the GP…You can put stuff in place for people in Primary Care. We've never had supervision in WAST, have we, really?" APP2

"*if you've got any concerns, you're sharing your management plan with the GP, and just to think, 'Does that sound okay with you*?" APP4

"*it's also access to clinicians, as well, isn't it? Like in WAST, you're much more autonomous, so you don't have that ability to contact somebody easily to discuss a case if you're concerned*." APP5

The APPs highlighted the importance of rotating between practices where possible to get a broad view of the Primary Care environment.

"I*f you're just with one practice, unless you're a strong practitioner… you could be very much influenced by that single…practice's practice, and you become moulded in their way of working. So, I think working across multiple practices has been useful*." APP1

Coming from a protocol led background to working as an autonomous practitioner in Primary Care, the APPs recognised variation in individual perception of risk and how it affects their practice.

"They're [GPs] very experienced at, maybe, taking more risk than what we are…In learning to develop risk, well, you say it depends which GP you go to because they all manage their medicine slightly different, and you have to try and become your own practitioner. So, we've gone from a guideline-driven service…to a much more critical thinking….So, my perceived risk might be slightly different to [another APP] but it all comes down to your individual practice and how you manage that patient." APP2

The APPs tapped into GP knowledge and used them as a 'sound board' to reinforce decisions. It potentially exposed the APPs to more serious and varied presentations than they had been used to in Primary Care but they acknowledged that exposure to new scenarios was a safe way to have exposure to risk.

"*The patient's note, in front of you, is very useful. So, if you've got a young, fit, healthy 24-year-old male coming up to you complaining there is something a bit 'ugh,' and he's not a regular presenter, and the GP knows what they're like. If they're coming up with something, well, you start to think, 'Hang about, there could well be…This is out of the norm for him,' and having the GP's knowledge of the family or the person, as well as the note, is a massive help to us*." APP1

"S*ometimes I quite like being-. Not being wrong, being challenged, maybe, or something I felt was clear-cut isn't so clear-cut, and this is the reason why. I think that makes you better in the long-run, as well as when you get it right, you get it right. You have to have a bit of both, I think, to evolve*." APP2

The GP opinion had particularly been valued to the APPs starting telephone triage during the COVID-19 pandemic.

"*They've amalgamated the [telephone triage] lists, now, and they [reception staff] don't take a complaint. So, it's just the name. it could be absolutely anything….they're happy for you to run with it for as long as there are no dire red flags jumping out. But I'll just run it by someone, anyway, at the moment, just quickly, and they'll say, 'Yes,' or, 'no,' or, 'add in this,' or, 'don't do that…. if you're picking up the stuff like the abdo-pain, the headaches and stuff… I still feel quite new to that…. I suppose that's, again, how you accept the risk in the future, by doing it. It should be nice to do it gradually… what are you going to do in case you're getting it wrong… it's a slightly different plan of action*." APP2

Some of the GPs also challenged the APPs to think laterally and consider alternative diagnoses.

"*There is always one GP—and I've used it to my advantage, to be honest with you—that always has some sort of weird and wonderful differential diagnosis to what I've said. So, say I think, 'Well, this sounds like a chest infection,' and they say, 'Well, it could be beriberi.' I don't mind that now because I think it's a great learning thing. So, instead of avoiding him, I'll kind of fish him out and say, 'Well, I've got this... he is just doing it to challenge me…But it's just a good soundboard just in case you're going off-piste….and instead of shying away, sometimes I go for these people just to get the differential diagnosis*." APP 4

However, when a senior colleague or GP offered an alternative diagnosis, one APP described how they felt conflicted by self-doubt in their decision making.

"*As you come up with a plan, sometimes we'll speak to our SICAT GPs and controls…And they don't back you up, …they see the risk slightly differently. That can be quite tricky to manage, then, because you think what you're doing is totally appropriate…that can kind of cause a bit of friction within your decisions…What have I missed? Are they just being very cautious? Am I being too flippant with it? …I find sometimes, if someone comes up with an opposite idea, it's difficult to equate that in your mind, because sometimes there's a pushback. Yeah. And sometimes, it's easier if you don't ask advice and you just do your own way. You've not been given the alternative point of view. But I wouldn't do that to most.*" APP3

As their confidence in managing risk and patients has increased, there are now situations where the APPs may actively avoid seeking the opinion of a particularly risk-averse GP.

"*[One] GP is a bit more risk-averse than the others…. you may not be as willing to go to that GP, I'm guessing. If you think you've got a fairly good management plan, and you're happy with it, run with it… You're more likely to go it alone*." APP1

"WAST is quite protocol-led, isn't it? So, a lot of jobs, you'd expect the same outcome from the same patient, whereas you ask three different GPs for a management plan, you'll get three different plans. …You have to get your head around or work out your own path…." APP 3

"*One of the tough things is which doctor you get on a certain day….There was one in the surgery the other day that I knew was on call. That patient was going to hospital. I didn't even have to go and ask him but I did…He just said 'A&E.' … I went to speak to another doctor and just said, 'I won't say what happened, but what would you have done?' and their treatment was completely different. There was not even a mention of hospital….that has been one of the hard points, whichever supervision you go to, because their level of risk is slightly different*." APP2

After benefitting from GP supervision, the first Cohort of APPs are now able to mentoring students and described how they could share their learning and support future Cohorts of APPs or students.

"*I've been mentoring a couple of MSc students…It's really good because you're able to give them a really grounded insight of the workings, the IT, what to look for; things that we have had to find out the hard way, like past drugs, what to look for, any missed, how to look for subtle things, you know? And I think it's going to be a big advantage to the following cohorts of our knowledge, and how we share it with those people, and how to discuss things with GPs, how to teach people… that's going to be invaluable….I found it quite difficult initially because there was no one there to hold your hand and tell you, 'Well, this is it.' I had half a day on EMIS and Vision, and then crack on*." APP4

Trust

Within the theme of GP supervision, there was a lot of discussion around trust. The opportunity to practice independently and manage risk was dependent on the APP gaining GP trust. Initially some APPs exclusively undertook home visits which they attributed to GPs perceiving it as the 'safest' option when starting the rotation in Primary Care, however it offered limited learning opportunities to extend their scope of practice.

"*I think sending [APPs] on home visits was the easy option, wasn't it, really? Bread and butter, where that least risk to practice upon where we started….We need to learn things that we're not used to by taking those extra, new risks….It's often just elderly, infirm patients…who you're going to get experience seeing. The management plan and the outcome might be slightly different. Maybe the [Practice] just thought, 'Well, they're good at that. We'll let them carry on what they're good at' without pushing this, necessarily, into the riskier areas of seeing someone in a clinic setting.' It's very different, isn't it, to going on a home visit?"* APP3

The APPs outlined how building a trusting relationship in Primary Care over time meant that the GP had confidence in their diagnosis or management plan and supported APP proposals for prescribing.

"*Before, you may have just presented what you had found…Give them the details and expect them to come up with a plan to deal with their own patient. Now… you just speak to the GP, and they'll take it more on board that you know what you've done and you've got a plan for them…we get better support that way*." APP3

"*The people you work with know you and trust you. If you go there and say, 'Listen. Can I have some amoxicillin; can I have some prednisolone for this patient? Exacerbation COPD.' They say, 'Yeah.' Whereas, previously, about a year ago, they say, 'Why? What are the symptoms? What does his chest sound like?'….it's a given. Because they trust you, they assume that you've done this professionally done, and …there isn't an issue with it*." APP4

"*We're not generally fazed by anything, and that has been some of the feedback from the GPs in our Cluster: 'We just point and shoot you lot. Off you go. And if you think you don't know, you'll come back and ask us.' It's the flexibility we've shown. And I think we're used to being in unfamiliar situations and dealing with patients we may have not seen the presentation before. And that gives us a good background when we've hit Primary Care, though, because we're used to seeing things we wouldn't normally see, sometimes. …you'll come across a whole raft of strange things, and you learn to deal with those as you go on through your career.*" APP1

The benefits associated with earning GP trust were also transferrable to WAST shifts, which could work in the patients favour to keep them at home and prevent an admission.

"*what else has helped is the networking you've got now with your GPs. So, you can, even if you're working as an APP, you can speak to someone within hours. … if they know you, they trust you, and it's easier to speak to someone. I find it has been invaluable with keeping people at home….because as APPs are spreading to most Clusters within the area, they would assume, they'd know, the level the APP is at and they would be willing to trust you. If I went to, say, [Cluster area] because [APP] is there*." APP4

At present, the Pacesetter is limited to a small number of APPs in seven Cluster areas of North Wales. It was perceived that the trust is dependent on practice area and awareness of APPs. One APP outlined how they had to build trust and undergo a second induction after moving practices despite having spent a year spent in Primary Care elsewhere.

"*I think it depends on the surgery, as well, because not all surgeries are involved in Pacesetter, either….but I'm not convinced that everybody is at that point yet…the trust issue was-. I'm noticing it now because I've just moved to a different Cluster and I'm going through the induction again, so I'm probably not going to see a patient before Christmas at this stage….I think it is very much based on their experiences of APPs, as well*." APP5

Patient perceptions and accountability

The APPs spoke of the importance of involving patients and their families to make decisions together and negate negative consequences as a healthcare professional.

"*I think the management risk is sharing decisions with patients. ….It's managing people's expectations of you, and setting realistic goals, and having conversations …So, if they do die, which often my patients do, it's not a massive surprise. … I've come back to the surgery the following day after seeing people. I've seen, oh, my God, two of them have died in the night! And you're thinking, what have I done wrong? But you've not done anything wrong… and the GP says, 'Well, the family phoned. They'd like to thank you anyway for your input*.'… s*o, if you're nice, sympathetic, show empathy to patients, and you discuss, as we say, a plan, even though it may be risky, as long as you've got the family/the patient on board…a lot of the risk-. It's not gone, but the following concerns may follow don't materialise…. One of our old bosses said that bad paramedics get sued, good ones get sued, but rarely do nice ones get sued. …it's one of the simplest things we can do. …make sure we've got good rapport. And I think your risk level has gone down already, then.*" APP4

"*The care tact has changed, as well. There are more carers who are non-family members. Their perception of risk is very different from-. I don't know. The daughter of a 90-year-old who knows what the frailty level of their mother is wouldn't necessarily be worried about her if she was a little bit unwell, but a carer would be…. It's just everything. The whole landscape is changing, really, isn't it*?" APP5

The focus group was undertaken in autumn 2020, between the first and second wave of the Coronavirus pandemic and some of the APPs reflected on how patient perception of risk was affected during this extraordinary time. Patients called 999 and expected to receive help but would refuse to attend hospital for fear of catching COVID.

"*Patients' perceptions change. I find that you're going to much more 999 calls as an APP where people tell you, 'I'm not going to hospital.' Years ago, people phoned for an ambulance to go to hospital, whereas, now, they kind of phone and say, 'Well, I'm not going in with that COVID thing.' They could be grossly unwell and they still refuse to go in. And it's kind of confusing because, why are they phoning for an ambulance? … They perceive it as this tier system where we can help, which, of course, we can. But it just seems strange that people are calling for care, even though they won't go to hospital*." APP4

"*I, personally, have seen a lot of patients who probably would have normally gone in, the type of patient they're a bit needy, that's why they phoned the ambulance in the first place, perhaps a reason that doesn't need an ambulance. And then you get there, 'Well, I don't want to go anyway, because of the corona.' 'Well, what are you expecting us to do? Why haven't you phoned your GP?' I've seen a lot of that*." APP1

Some blame was apportioned to media portrayal of the situation. It was also thought that patients themselves may be unsure where they can access help.

"It started, if I remember right, the MRSA, when that scandal came out, didn't it? If you went into hospital, you caught this super-bug. And the media has changed outlooks of people, haven't they? But certainly, this one has scared people more than normal. However, I think we're in a weird phase now where people aren't scared of it at the moment, even though we're peaking again…"The fear factor is gone. But it's not just a COVID thing. It has felt like this every time there is a bit of an outbreak of something. MRSA. Ebola was another one…. But certainly, people nowadays, I don't think, want to go as readily to hospital. They just don't know where to get the help they need and feel that, once they have exhausted an avenue, say their GP, or they're not getting some where they think, 'Hospitals?'" APP2

Discussion

The themes arising from the focus group have provided an insight into the APP experience moving from protocol led care in the ambulance service, to acting to behalf of GPs to autonomously make decisions and manage patient care.

The APPs described how their perception of risk has been shaped by protocol driven practice in the ambulance service and elements of a 'blame culture', which led to an approach where conveying to ED was considered their safest option. Increased pressures in secondary care, and increasingly complex patients presenting to the ambulance service have meant that in recent times they have had to approach risk differently, and think creatively how the patient could be managed at home or without an admission. The APPs were more 'comfortable' making these decisions having completed their Masters and spent a year working in Primary Care where they worked differently. But they conceded that system pressures mean this is an expectation of all paramedics, not just APPs and the support was not always in place from the ambulance service.

The APPs described their approach on the ambulance as having one contact and are rarely made aware of patient outcomes. Working in Primary Care as part of the rotation, there was continuity of care which meant they could defer decisions and proactively contact patients which changed the type of risk they were exposing themselves to. The APPs noted that continuity of care was transferrable beyond the boundaries of Primary Care and are now better able to link in with practice staff, and ultimately provide a more joined-up service to patients.

The sense of responsibility, taking on roles previously performed by GP colleagues greatly affected the APP decision making process. Some described how they felt they were taking more risk, and others felt they were approaching and managing risk differently. In some of the discussions, there was a sense that there is still some anxiety around decision making and responsibility for risk. The APPs acknowledged that there had been an improvement in their practice with respect to risk. They attributed it to GP and practice exposure, and experience and may improve further with more time in Primary Care. Some also felt they took a more holistic approach to patient care.

A lot of the discussion during the focus group linked back to the role of the GP in APP development, and this formed the largest theme of GP Supervision. The GPs were said to play a pivotal role in supervising and supporting APPs as they moved from protocol-led, to autonomous practice in Primary Care. The APPs sought and respected GP opinion, and described scenarios where they now have confidence in their decision making and may avoid risk averse GPs. In turn, the GPs challenged the APPs to consider alternative approaches and diagnoses. One APP was now supervising Masters level students. This model of supervision of future Cohorts of APPs and students could offer a sustainable means of continued support for practitioners new to Primary Care.

Leading on from GP supervision was the theme of trust, particularly the relationship between GP and APP. The APPs recognised that they had to earn the trust of GPs and once achieved, GPs would support their decisions and requests without question. This may be due to APP perceptions around the GP role, and working as an equal in Primary Care. The benefits to a good relationship with GPs could also be realised on WAST shifts.

Finally, some of the APPs discussed patient perceptions and the importance of involving family, and good communication, particularly concerning difficult conversations or bad news. They also discussed it in the context of the COVID-19 pandemic, which was relevant at the time the focus group was undertaken. Patients were calling for help but then declining conveyance through fear of catching the virus which was a source of professional conflict for the APPs.

Overall, there are commonalities running through the themes including some of the ongoing anxieties around the concept and management of risk. This was expressed through use of terms such as 'being comfortable with' rather than having complete confidence when dealing with risk. It could be the case that confidence will increase further with time. The APP their practice on WAST APP shifts has benefitted from the experience and professional contacts gained from working in Primary Care.

It is acknowledged that the limitations of a service evaluation mean that the findings cannot be generalised beyond this cohort of APPs.

Cohort II - Minnesota Satisfaction Questionnaire (MSQ)

Background

The Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al 1967) was designed to measure an employee's satisfaction with work and aspects of the workplace environment. The MSQ provides information on the aspects of a job that an individual finds rewarding. The MSQ consists of 100 items (or questions) referring to a reinforcer in the workplace. There are 20 scales and five items per scale. Responses are weighted in the following way: very dissatisfied (1), dissatisfied (2), neither (3), satisfied (4), very satisfied (5).

Items are scored according to the instructions provided in the MSQ Manual (where each item is aligned to the 20 scales). A raw score can be determined for each scale by adding all five scores for each of the 20 scales. In addition it is also possible to calculate a General Satisfaction score (ranging from 20-100), where 20 specific items are scored, one from each scale, however this was not assessed as it is not representative of the overall response.

The Pacesetter project team previously selected the 100 item 1977 long version of the questionnaire to use with the first Cohort of Pacesetter APPs. Alternative measures of workplace satisfaction were reviewed, but as a validated instrument, the MSQ assessed the most comprehensive range of scales. A brief review of the literature determined that the instrument is still used extensively to assess workplace satisfaction, particularly amongst healthcare workers.

Methods

The MSQ aimed to fulfil the 'Am I Valued' item from the APP element of the Pacesetter Evaluation Framework. It was anticipated that this tool would be suitable to measure APP wellbeing and overall feelings about support. The project team consulted the BCUHB Information Governance and Clinical Governance Department for assurance that the MSQ and process complied with local requirements, and remained within the remit of a service evaluation.

The MSQ was distributed to all APPs from Cohort II of the APP Pacesetter programme. They were instructed to mark their responses with consideration for all three aspects of the Pacesetter rotation. Six of the APPs from Cohort II completed the questionnaire, each scored all 100 items. At the time the MSQ was completed, APP education was being delivered electronically and social distancing measures were in place therefore the questions were hosted in Smart Survey and the results were downloaded for scoring and analysis. Each questionnaire was hand-scored using guidance provided in the MSQ handbook.

Results

The three highest scoring scales based on a total potential score of 150 (six APPs and a maximum score of 5 for each of the 5 items on a scale) were

Security (135)
Social Service (134)
Activity (133)

The three lowest scoring scales were

Supervision – Technical (92)
Supervision (human relations) (91)
Authority (90)

Figure 1 below includes the total raw score for each of the scales.
indicates that overall Cohort II APPs are reporting satisfaction at an early stage in their rotation.

The light blue bars are aligned to intrinsic satisfaction, the green to general satisfaction and dark blue to extrinsic satisfaction. This is explained in more detail below.

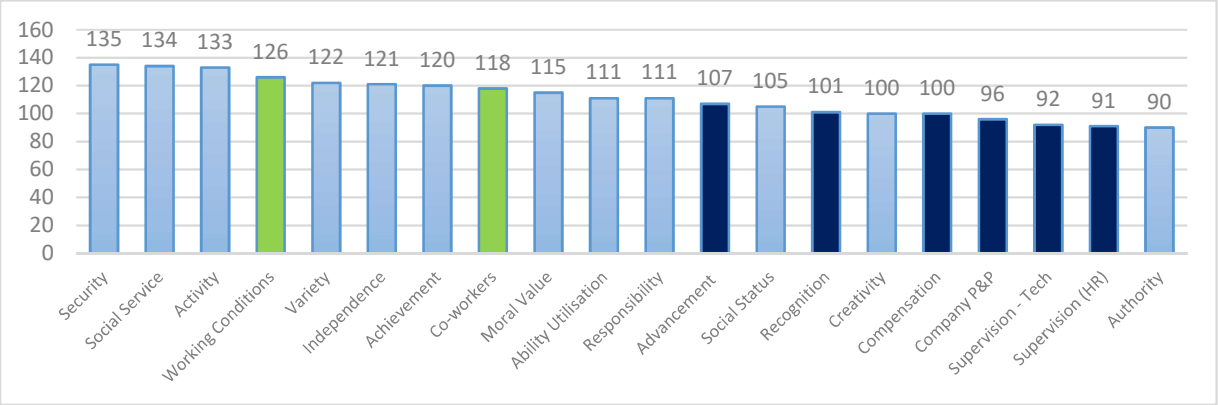


Figure 1. Total score per scale based on a potential maximum score of 150 (six APPs, potential score of 25 per scale).

The highest scoring individual items or questions based on a potential score of 30 (six APPs maximum score of 5) are documented in the table below. As expected, these were within the scale with the highest overall raw score.

Item or question	Score	Scale
'The way my job provides for a secure future'	29	Security
'The way my job provides for steady employment'	29	Security
'How steady my job is'	29	Security

The lowest scoring individual items or questions can be found below, three were from the lowest scoring scales. However one was from Responsibility scale which scored moderately well.

Item or question	Score	Scale
'The chance to supervise other people'	13	Authority
'The way my boss backs up his/her employees (with top management)'	16	Supervision (human relations)
'The personal relationship between my boss and his/her employees'	16	Supervision (human relations)
'The chance to be responsible for the work of others'	16	Responsibility

Individual scores

The total raw score for individual APPs ranged from 327 to 418 (maximum potential score 500). The mean across all scores was 368, which is similar to the Cohort I mean of 360.

If the scores were converted to percentages using the method outlined above, five of the APPs would fall in the 'satisfied' range and one in the 'very satisfied' range.

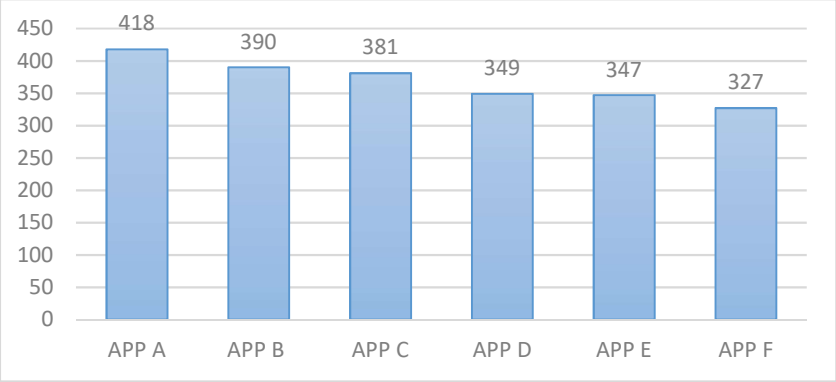


Figure 2. Individual APP raw scores

Intrinsic and Extrinsic scales

A short version MSQ comprising 20 items was also developed by the University of Minnesota and included the items with the highest correlation to each of the 20 scales. On the short MSQ, all items were scored to one of three scales, intrinsic satisfaction (type of work/the work itself), extrinsic satisfaction (external or environmental factors) and general satisfaction. The full list of scales and dimensions can be found in Appendix 1. Although the intrinsic and extrinsic factors were not intended to be generalised to the long version of the MSQ, these three short MSQ scales were compared with the raw scores collected from the APP data.

There was an unequal number of items on each of the scales so the APP total raw score was divided by the number of items per scale.

Satisfaction scale	**APP raw score (from potential maximum of 30)**
General (2 items)	23.5
Intrinsic (12 items)	24.67
Extrinsic (6 items)	20.33

The scales are displayed visually in Figure 1, where light blue bars are aligned to intrinsic satisfaction, the green to general satisfaction and dark blue to extrinsic satisfaction. The results indicate that like Cohort I, the APPs have greater satisfaction with intrinsic factors relating to the work and job itself, and lower satisfaction with extrinsic or external items. Four of the five top scoring scales were intrinsic, in contrast to four of the five lowest scoring scales which were classified as extrinsic.

Standard Deviation

Standard deviation (SD) is a measure used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation would indicate that APP scores tend to be close to the mean, while a high standard deviation indicates that the values are spread out over a wider range. For this Cohort of APPs, the SD ranged from 1.41 to 5.47 across the scales (outlined in full in Figure 3 below). The Standard deviation for Ability Utilisation was vastly higher than the other scales, with scores from individual APPs ranging from 9 to 25.

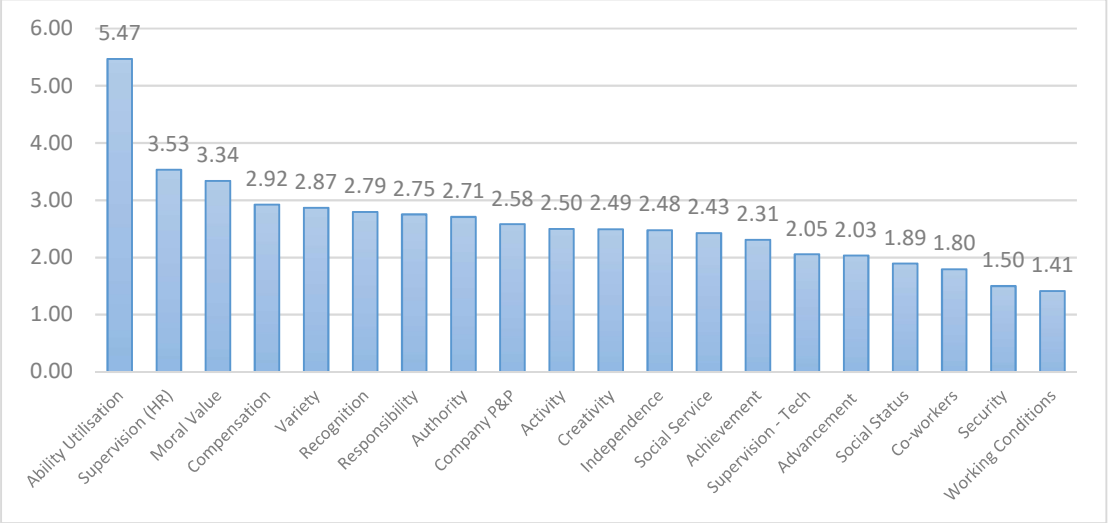
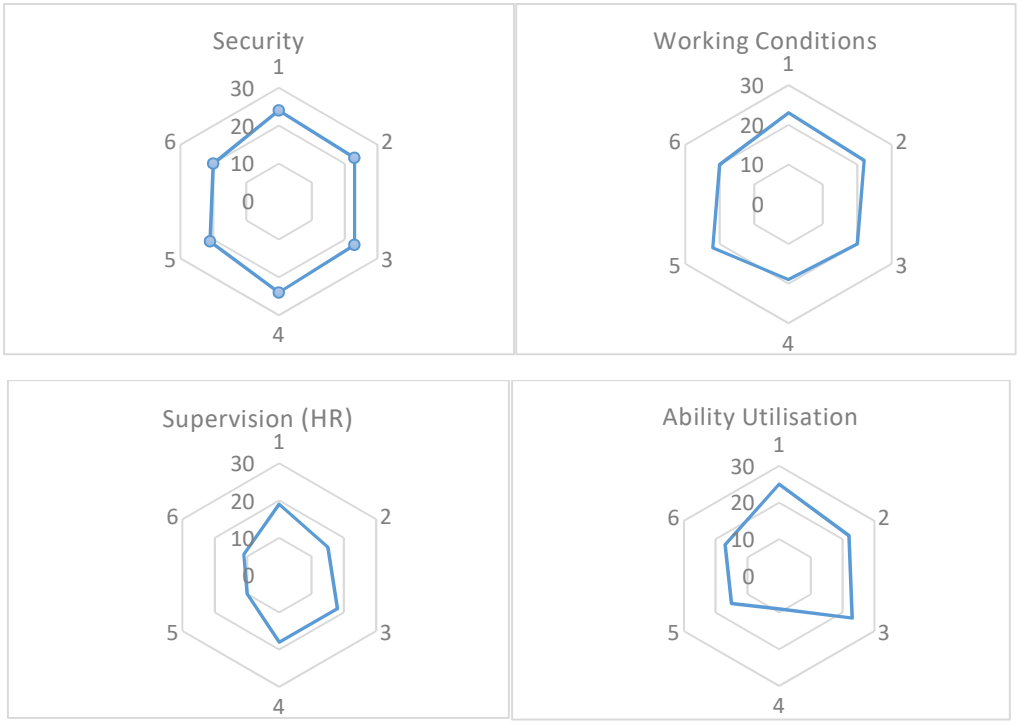


Figure 3. Standard deviation in APP scores per scale

The Security and Working Conditions scales ranked lowest based on SD and in the top four for raw score which indicates a consistent high level of satisfaction amongst APPs for this measure.

In contrast, Supervision (Human Relations) and Ability Utilisation had the highest SD but ranked mid and low respectively based on raw score which suggests there was variation in satisfaction between the APPs for these scales.

The scores for each APP for these scales are presented visually below.



How do the results compare to Cohort I?

All nine APPs from Cohort I completed the MSQ nine months into their rotation in February 2020. The mean scores for Cohort II are displayed in comparison to Cohort I in Figure 4 below. The raw score was used as the basis for calculating the mean.

For both Cohorts I and II, Social Service, Working Conditions and Activity were all in the top five scoring scales. Authority and Supervision (Human Relations) were in the bottom five scoring scales for both Cohorts.

Some of the scales such as Ability Utilisation, Moral Value and Authority ranked similarly between Cohort I and II. However, other such as Security, Activity and Advancement demonstrated wider variation in scores between the two Cohorts. Based on mean scores there appears to be greater disparity between Cohort I and II in the higher scoring scales (based on Cohort II results) and less in the lower scoring scales.

Interestingly, in the top six ranking scales in Figure 4 below, Cohort II consistently scored higher. Whereas the bottom six scales for Cohort II (Creativity to Authority below) Cohort I APPs all scored higher.

Overall, Cohort II scored higher than Cohort I on 11 of the 20 scales, Cohort I scored higher on the remaining nine.

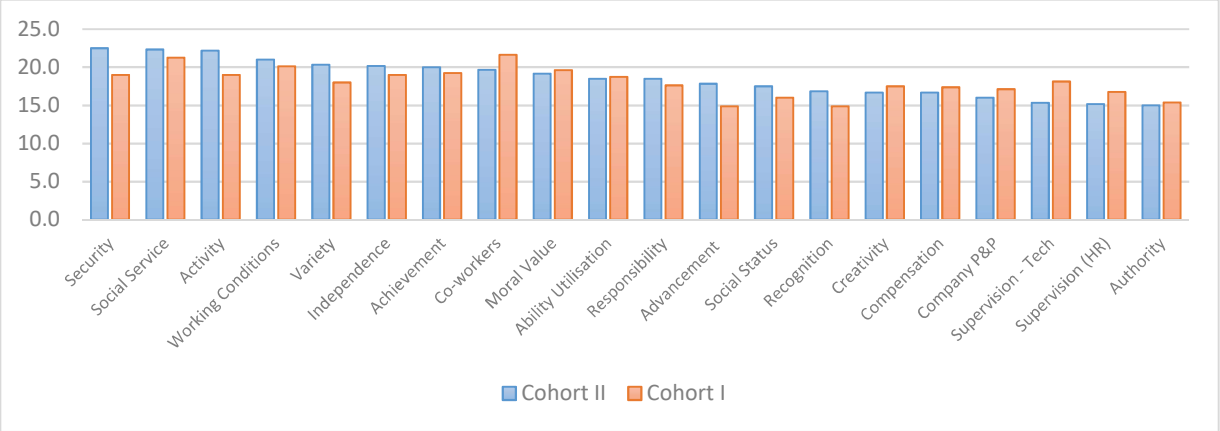


Figure 4. Cohort II raw score in comparison to Cohort I

In terms of individual scores, Cohort I ranged from 294 to 417 (compared to 327 to 418 for Cohort II) indicating that Cohort II are demonstrating a higher level of satisfaction from an individual perspective.

The standard deviation is higher for Cohort II, ranging across the scales from 1.41 to 5.47, in comparison with that of Cohort I (1.59 to 4.51) despite a smaller number of APPs completing the MSQ in Cohort II.

Consistent between Cohort I and II was intrinsic (and general) items scoring better than extrinsic items. The scores are not directly comparable as the calculation is based on total APP raw score and fewer APPs completed the MSQ from Cohort II than Cohort I.

Conclusion

Overall, the results from the MSQ completed by Cohort II of the Pacesetter APPs indicate a high level of satisfaction with the rotation. Based on raw score, none of the scales would be classified as either 'dissatisfied' or 'very dissatisfied'. Similarly, the lowest individual scoring APP falls into the 'satisfied' range. Furthermore, there was low standard deviation amongst some of the highest scoring scales indicating consistent satisfaction between APPs for these measures.

High levels of satisfaction on scales such as Security, Social Service and Working Conditions could be attributed to the nature of work as an APP and steady nature of employment in the NHS. However,

some of the lower scoring scales may reflect limitations and restrictions associated with the work such as Compensation and Company Policies and Procedures.

The comparison with the scores from Cohort I allows the project team to identify areas of satisfaction across the two Cohorts of Pacesetter APPs for example Social Service and Activity. It also found consistent areas of lower satisfaction such as Authority and Supervision. There was a wider range in mean scores for Cohort II across the 20 scales (from 15-22.5), compared with 19-21.6 for Cohort I. Further work needs to be undertaken to understand whether these scores were based on a particular aspect of the rotation and if there are any changes which could be implemented to improve scores for these measures.

In terms of using the MSQ as a measure of 'Am I Valued' for the APP Pacesetter evaluation, this Cohort of APPs reported a high level of satisfaction with the rotation which will impact on their experience of feeling valued. The project team acknowledge that the results from the small sample of APPs is not generalizable beyond the Pacesetter programme. In addition, the scores from the two Cohort II APPs who did not complete the MSQ might have affected mean scores across the scales.

References

Weiss, D.J., Dawis, R.V., England, G.W. and Lofquist, L.H., 1977. Minnesota satisfaction questionnaire (short form). *Vocational Psychology Research, Manual for the Minnesota satisfaction questionnaire, University of Minnesota*.

Appendix 1

Scale title	**Categories of Satisfaction**
Ability to utilization	Intrinsic and General
Achievement	Intrinsic and General
Activity	Intrinsic and General
Advancement	Extrinsic and General
Authority	Intrinsic and General
Company policy and practices	Extrinsic and General
Compensation	Extrinsic and General
Co-workers	General
Creativity	Intrinsic and General
Independence	Intrinsic and General
Moral values	Intrinsic and General
Recognition	Extrinsic and General
Responsibility	Intrinsic and General
Security	Intrinsic and General
Social service	Intrinsic and General
Social status	Intrinsic and General
Supervision-human relations	Extrinsic and General
Supervision-technical	Extrinsic and General
Variety	Intrinsic and General
Working condition	General

WAST CAD Data

Background

The project team were keen to learn more about how the Primary Care rotation might impact on their performance on WAST shifts. WAST CAD (Computer Aided Dispatch) data was available from January 2019, as this was the earliest date that it was collected in the current format, until December 2020, and allows for some comparison before the start of the Pacesetter project.

Methods

A DPIA (Data Protection Impact Assessment) between WAST and BCUHB allowed the sharing of APP data from WAST shifts, and processes around this were agreed by both BCUHB and WAST information Governance teams. Data was collected according to the principles of a service evaluation, and fulfils part of the WAST element of the evaluation framework. Data was shared on Conveyance rate, Treat at scene rate, Refer to Alternative Provider and Time on Scene.

Appendix 1 includes the graphs for each measure for both Cohorts since their start in Primary Care.

Results

From Cohort I, all APPs are missing at least one month of data. Cohort II has considerably more missing data as not all APPs were working in the role as early as January 2019.

The graphs below have included data from seven APPs from each Cohort, the remaining APPs had too much missing data to be representative. In addition, a trend line has used for each graph to provide an indication of the overall patterns in the data. The axis selected for each graph, are not all comparable, as the options have been selected which best display data for individual APPs.

The blue arrow on each graph denotes the point at which the Cohort started their Primary Care rotation.

Conveyance

- Cohort I - the conveyance rate has reduced for five APPs, and increased for two. This includes the time period prior to their work on the Pacesetter project. In December 2019 and January 2020, five of the APPs all had a very similar conveyance rate but this dispersed in the following months.
- Cohort II – the rate has decreased for all but one APP. The starting figure was significantly higher for Cohort II, but most APPs from both Cohorts were at a similar level by December 2020.

Treat at Scene

- Cohort I – Three APPs have remained stable, three have increased and one has decreased. The trend line for two of the APPs is almost identical, and the data for one of them is obscured by the yellow trend line.
- Cohort II – There was an increasing trend for all but one APP. The percentage in January 2019 was lower overall for Cohort II than I, but APPs in both Cohorts tended to be between 20 and 40% by December 2020.

Refer To Alternative Provider

- Cohort I – There is a decreasing trend for all APPs.
- Cohort II – There was an increasing trend for all but two APPs. Like the figures for 'Treat at Scene' the percentage in January 2019 was lower than for Cohort I, and the increase brought the figures for both Cohorts more in line by December 2020.

Average Time Spent On Scene

- Cohort I – The trend line for one of the APPs indicates a notable increase. For the remaining six, it remains stable or with a slight decrease over time.
- Cohort II – There was an increasing trend for all APPs. By December 2020, Cohort II generally had a higher time on scene compared with Cohort I.

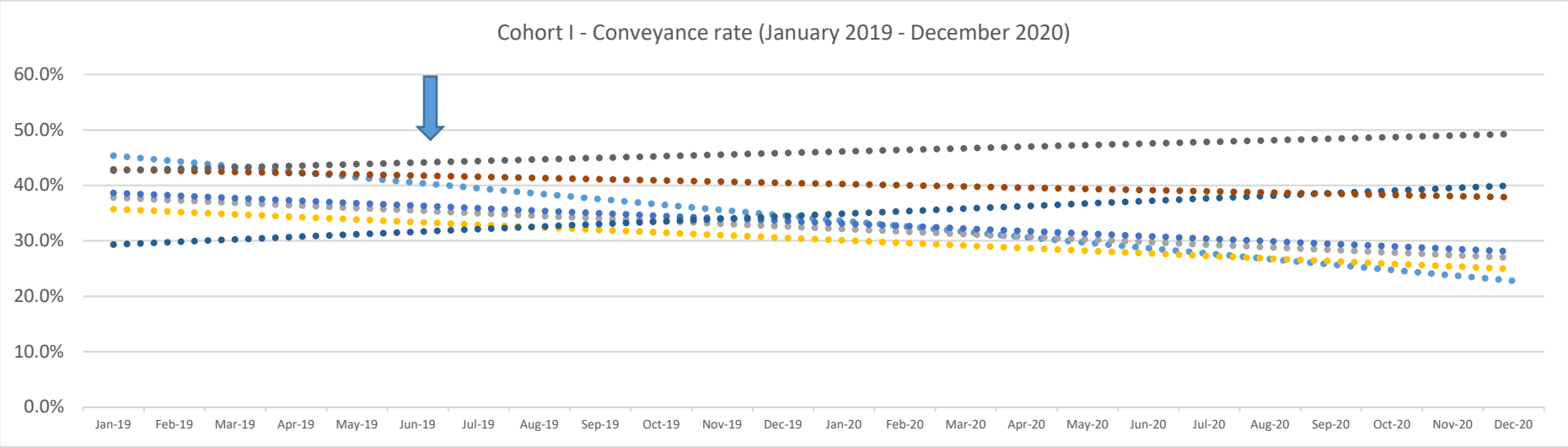
Conclusion

The APPs have shown expected improvements in the trends for Conveyance and Treat at Scene. For Referrals to alternative provider, an increase would have been expected for both Cohorts. Similarly, Average time Spent on Scene was expected to decrease for Cohort II. However, it must be acknowledged that some of the improvements and trends started before the APP Pacesetter rotation and may attributed to other interventions and changes. Also, the data covers the period until December 2020, and at this time point, Cohort II would have only been in Primary Care for three months, which may not be long enough to notice any significant changes or transfer of skills. It is positive that the changes noted for Cohort II have brought them more in line with the figures for Cohort I, despite them having spent less time in Primary Care, and some have been not been qualified as APPs for as long as Cohort I APPs.

The graphs used a general trend line which does not account for extreme values or missing data. It also doesn't take into account some of the complexities of data. For example the percentage for a given month will represent the overall percentage for APP jobs during the month, and in the period covered this ranges from one job to 50.

It may be helpful to undertake qualitative work with the APPs to investigate some of the trends and anomalies in more detail.

Conveyance


Cohort I - Conveyance rate (January 2019 - December 2020)
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
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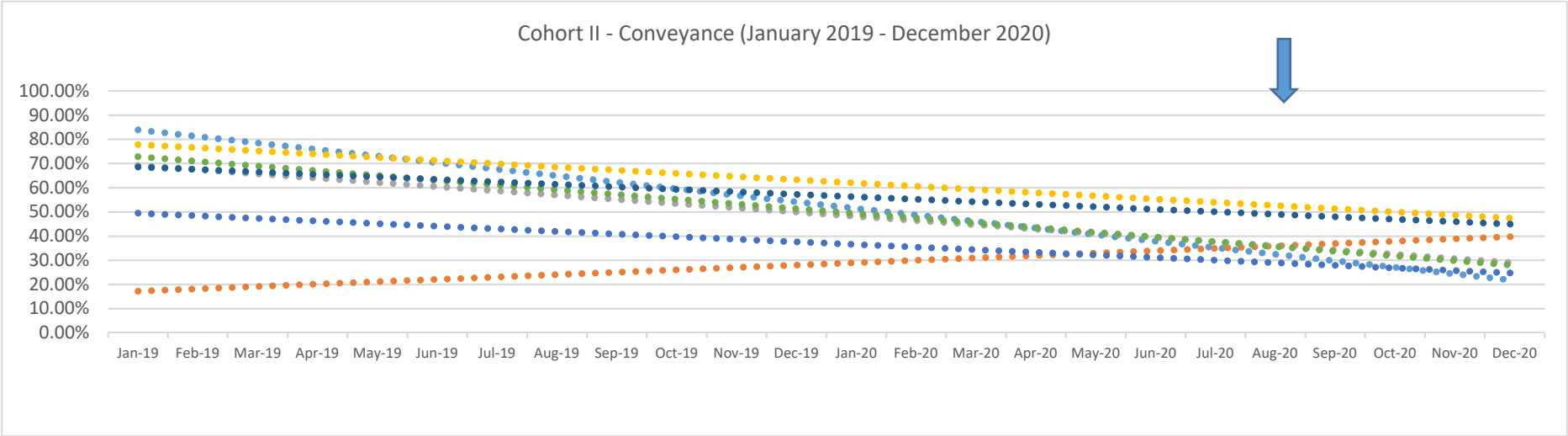
Dec-20


Cohort II - Conveyance (January 2019 - December 2020)
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
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Jan-20
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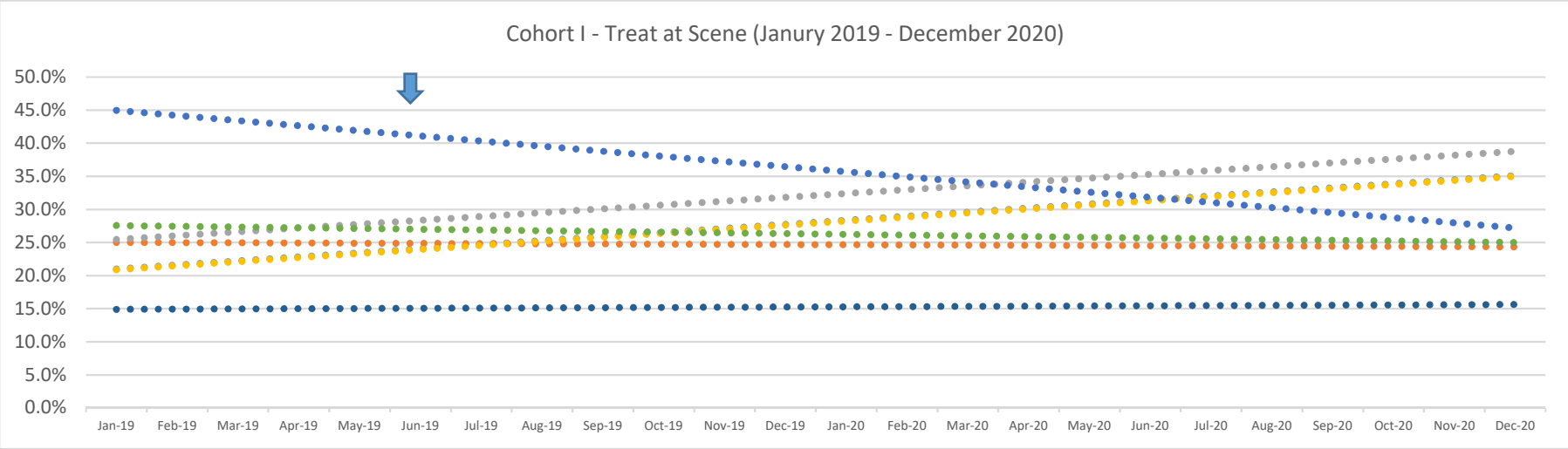
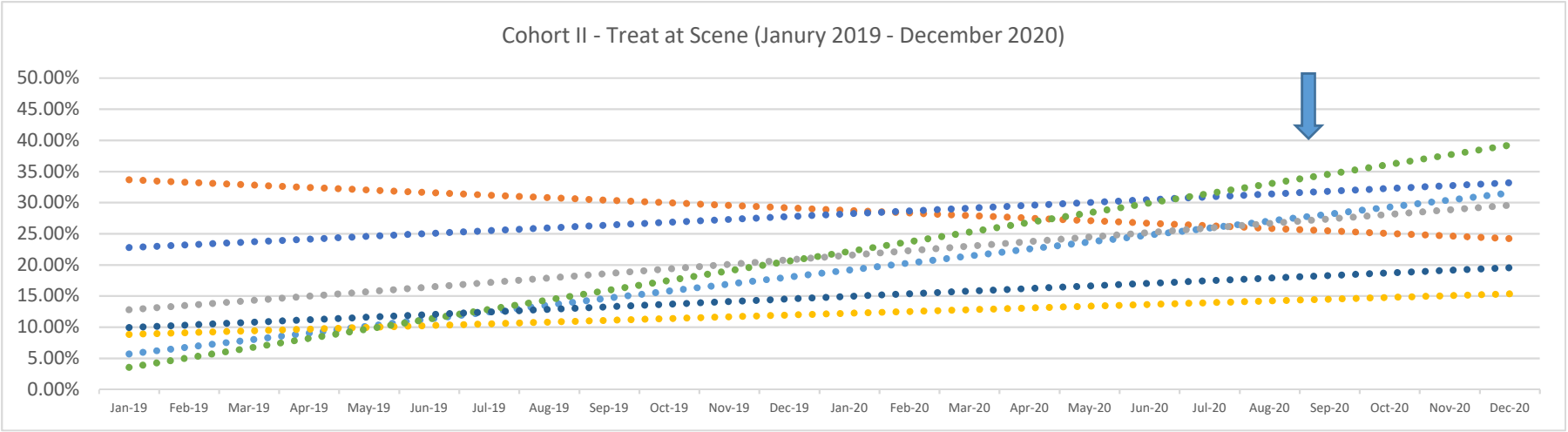
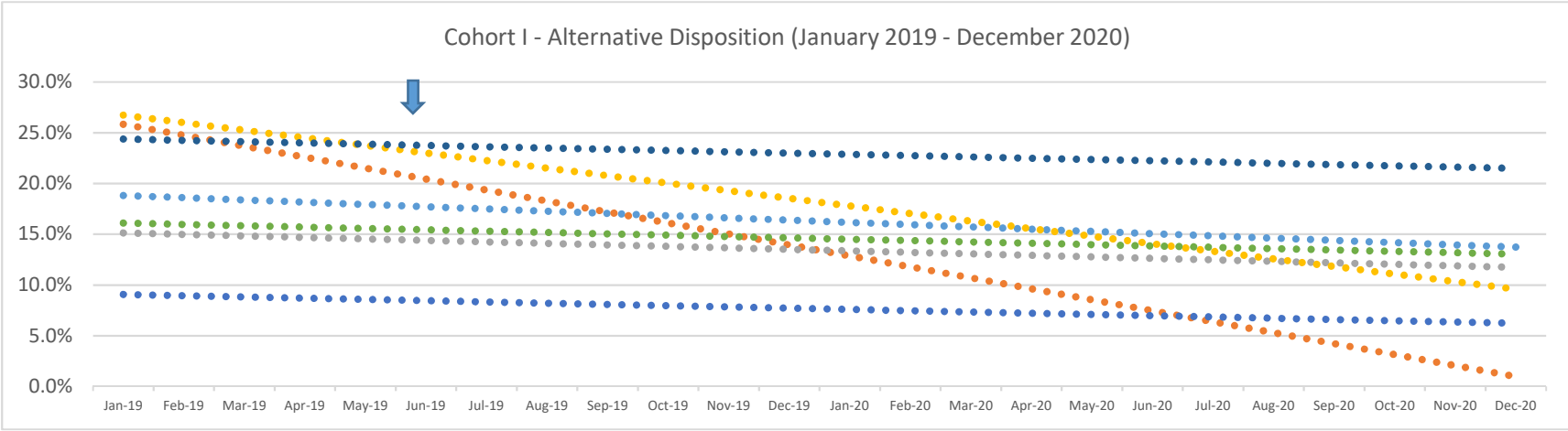
Oct-20
Nov-20
Dec-20

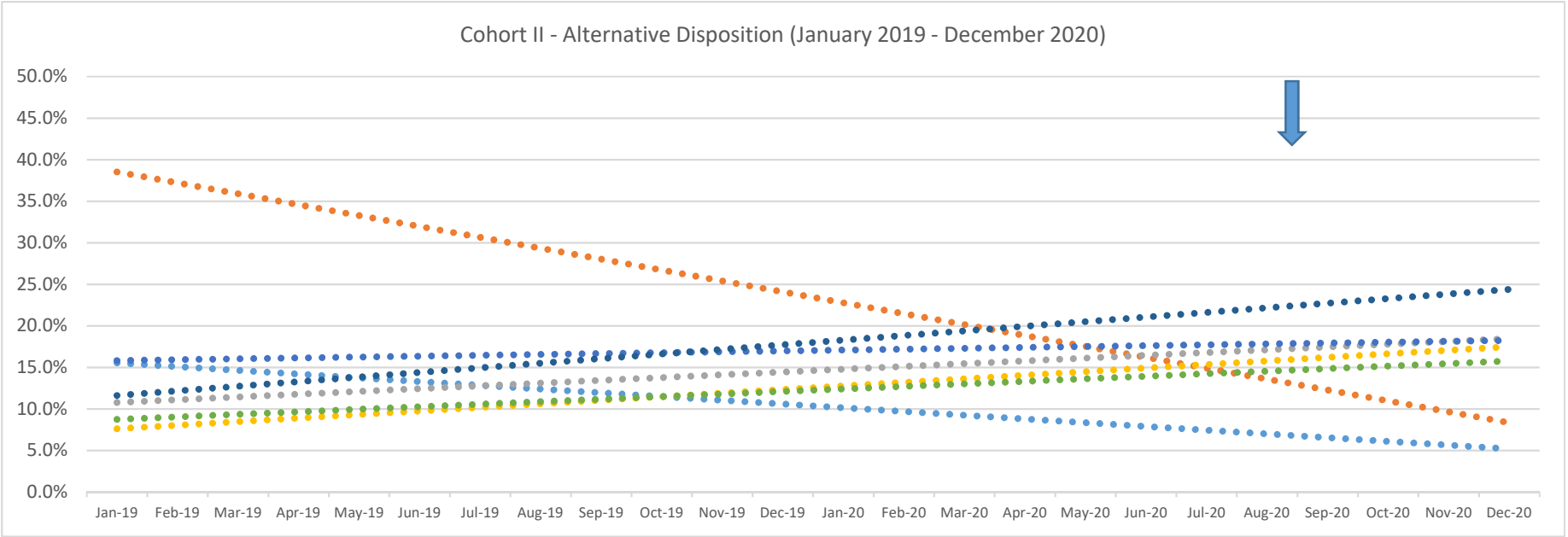
Treat at Scene





Refer To Alternative Provider




Cohort II - Alternative Disposition (January 2019 - December 2020)
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
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Sep-19
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Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Apr-20
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Jun-20
Jul-20
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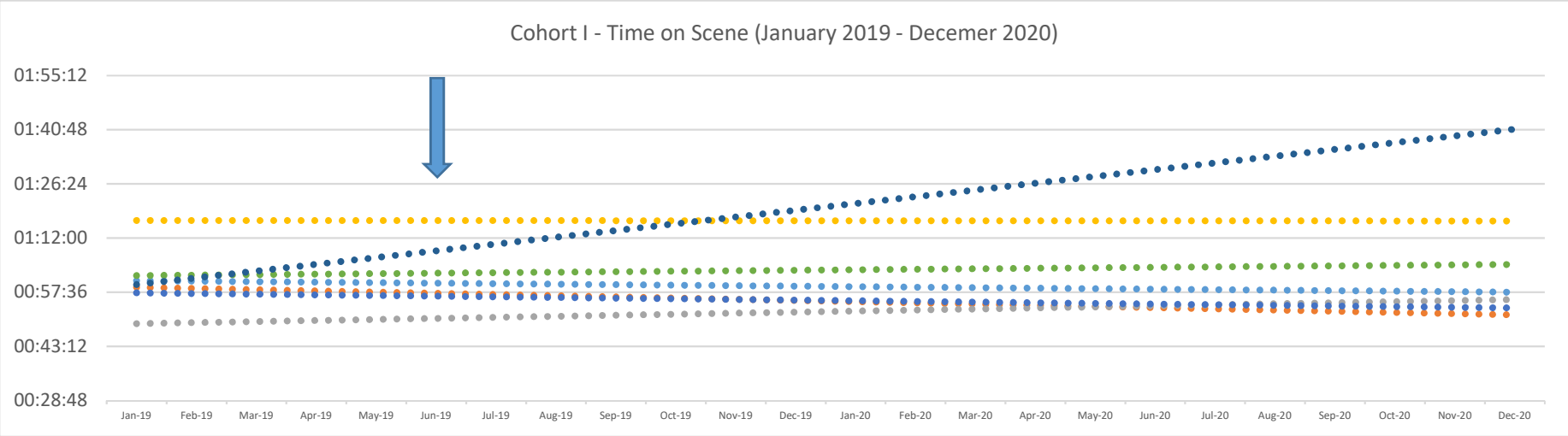
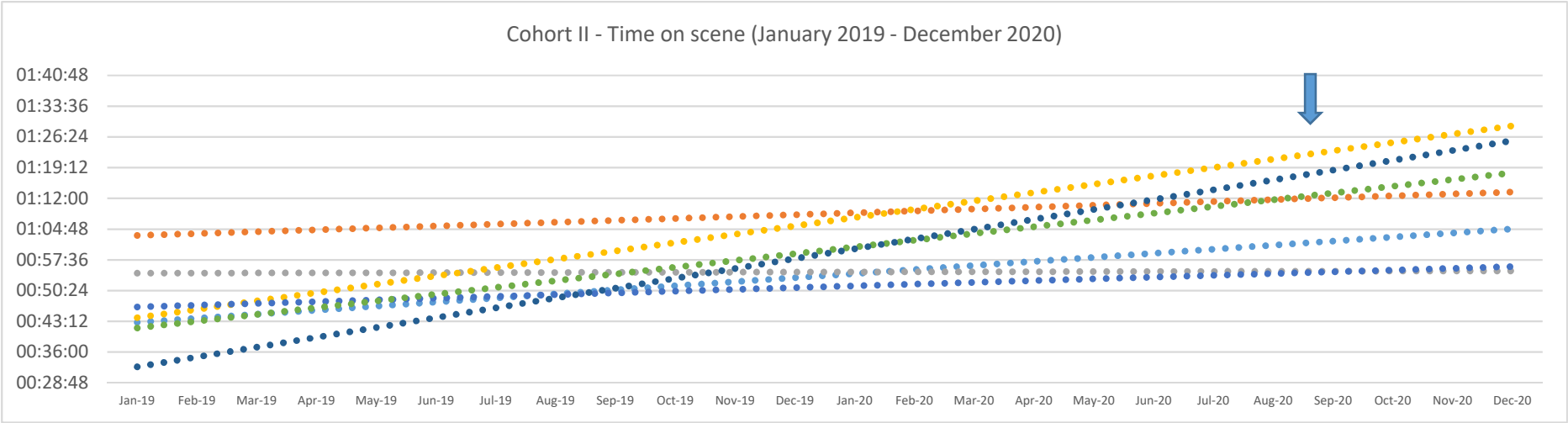
Sep-20
Oct-20
Nov-20
Dec-20

Average Time Spent On Scene




Cohort II - Time on scene (January 2019 - December 2020)
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00:57:36
00:50:24
00:43:12
00:36:00
00:28:48
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
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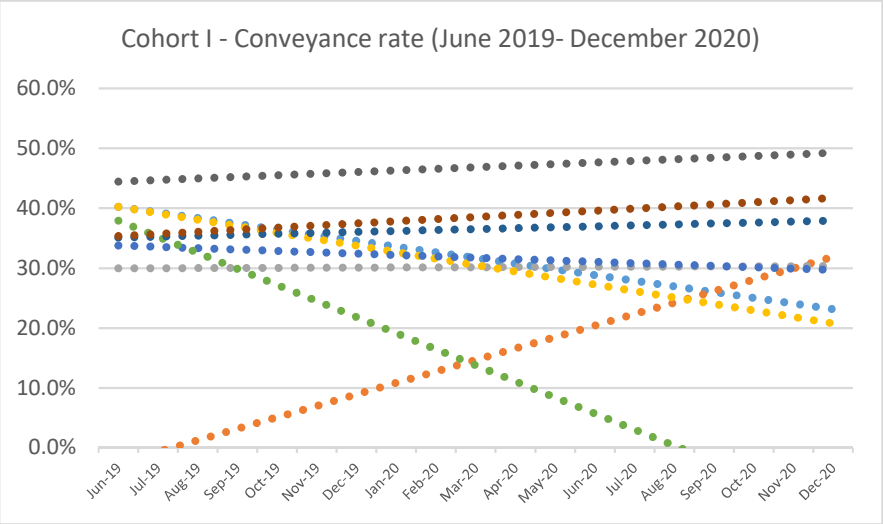
Sep-20
Oct-20
Nov-20
Dec-20

Appendix 1


Cohort I - Conveyance rate (June 2019- December 2020)
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50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
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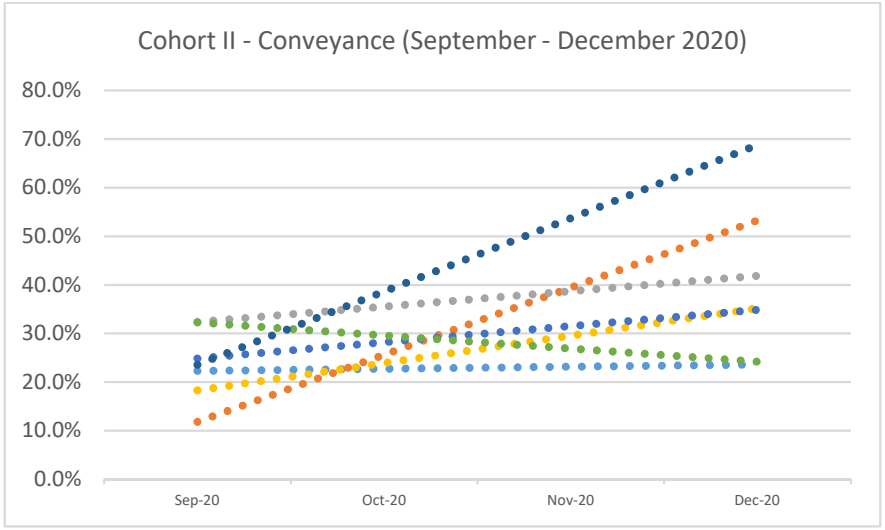
Cohort II - Conveyance (September - December 2020)
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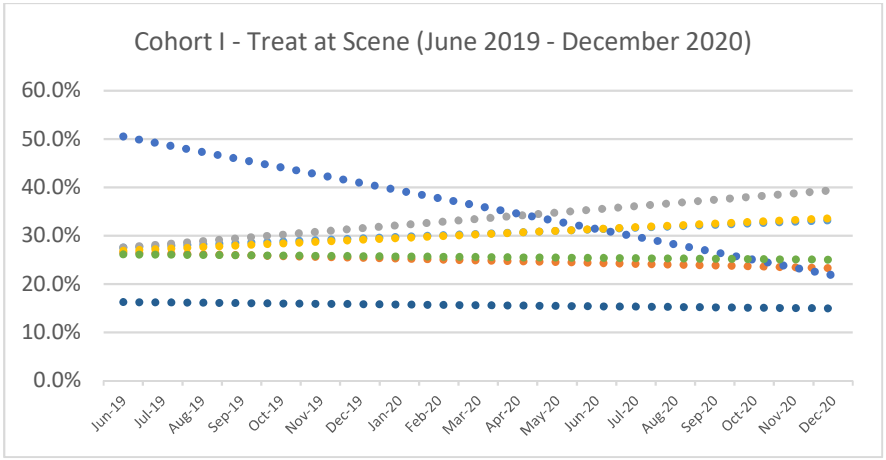
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Sep-20
Oct-20
Nov-20
Dec-20


Cohort I - Treat at Scene (June 2019 - December 2020)
60.0%
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20.0%
10.0%
0.0%
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
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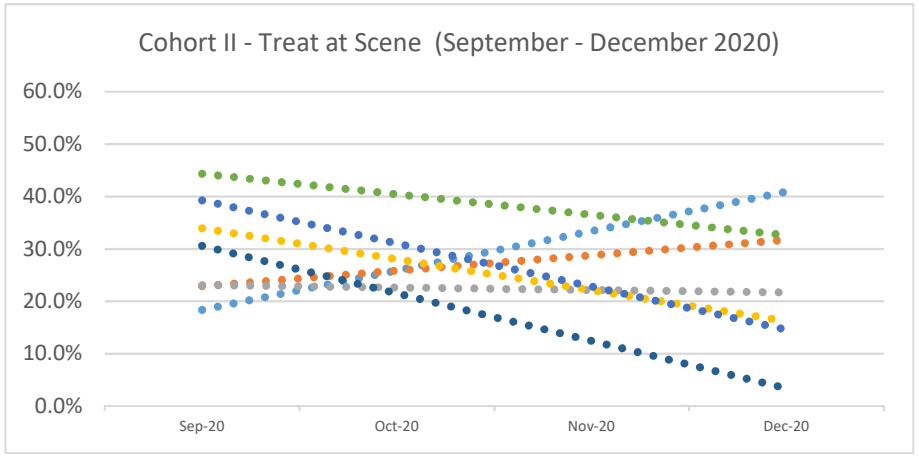
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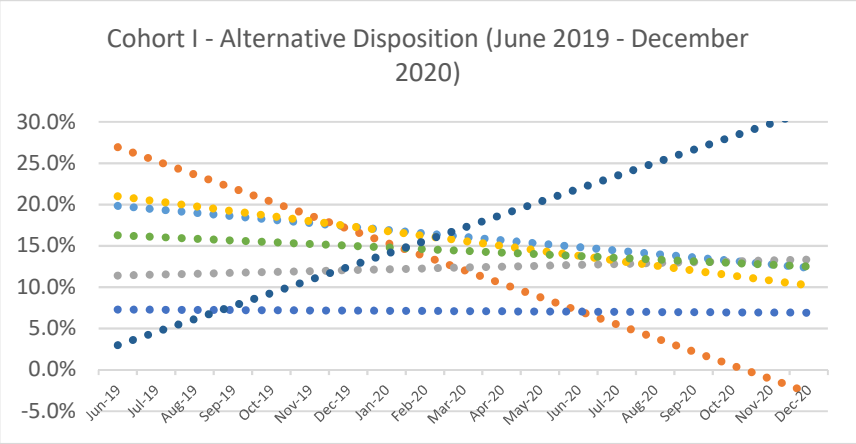
Oct-20
Nov-20
Dec-20


Cohort I - Alternative Disposition (June 2019 - December 2020)
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15.0%
10.0%
5.0%
0.0%
-5.0%
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
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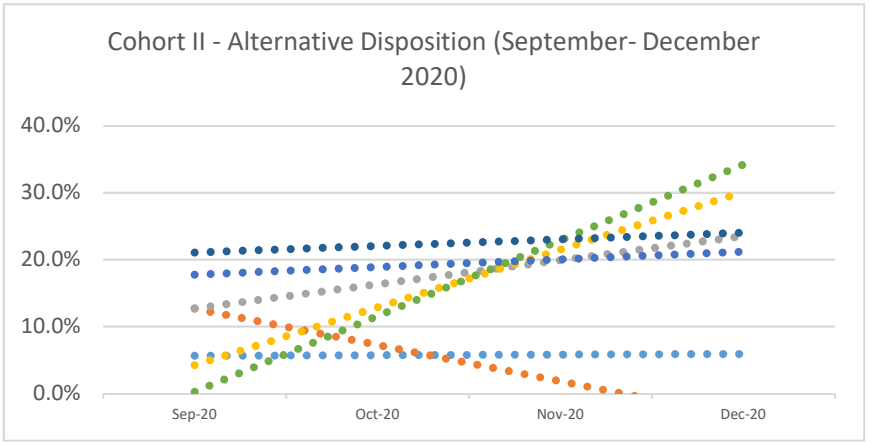
Dec-20


Cohort II - Alternative Disposition (September- December 2020)
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30.0%
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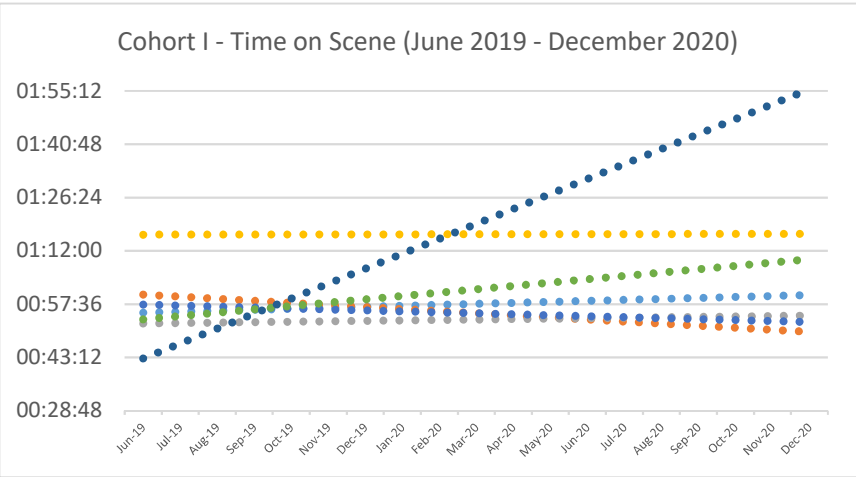
10.0%
0.0%
Sep-20
Oct-20
Nov-20
Dec-20


Cohort I - Time on Scene (June 2019 - December 2020)
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00:43:12
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Jul-19
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Oct-19
Nov-19
Dec-19
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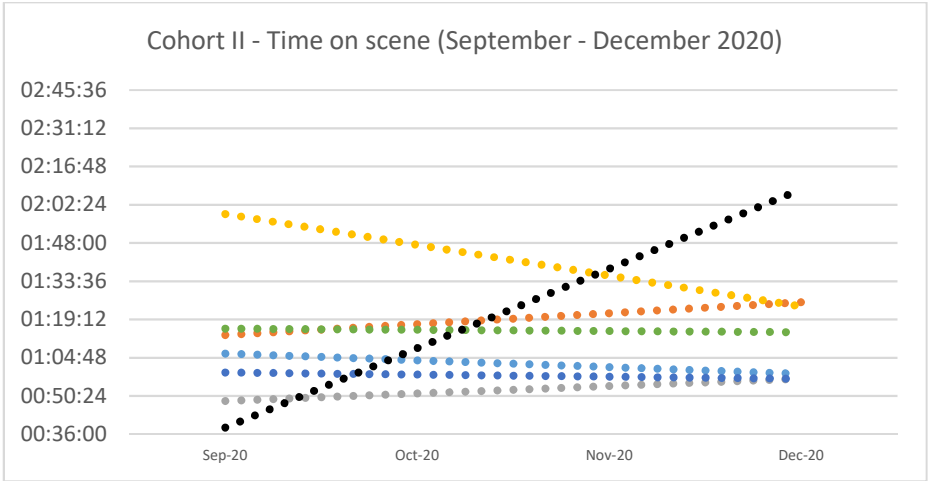
Cohort II - Time on scene (September - December 2020)
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00:36:00
Sep-20
Oct-20
Nov-20
Dec-20