Advanced Paramedic Practitioner (APP) Pacesetter Project: Phase I Evaluation Report

September 2020

Contents

Foreword

The role of the paramedic has been constantly evolving since inception to meet changing demands, including access to higher education pathways leading to clinical career progression. Extended roles, such as advanced clinical practice have opened up new career options for experienced and educated paramedics to work in patient-facing senior clinical roles outside of the traditional paramedic employer, the ambulance service.

The challenge now for any modern ambulance service is how to provide a long career with varied options for the groups of staff that have had significant investment in their professional development; particularly when this development makes them an attractive employee for other health care organisations. Data from England indicates that an increasing number of paramedics are making the choice to work in Primary Care. There are certainly advantages to the individual paramedic and practices, however the transition to a new work environment may not always be the right move for some, and while a number of paramedics return, the intellectual contribution for those that stay away means ambulance services lose out on the benefits that working in other health sectors can offer.

From a system perspective, this is an inefficient way of delivering healthcare, and organisations that compete for talent against each other may not be able to work closely together to deliver excellent joined up care. The purpose of this Welsh Government funded Pacesetter project was to test an extended rotational working pattern following a successful internal pilot project. This extension was for a small group of advanced paramedic practitioners to include working within Primary Care. The benefits were assumed to be two-fold, to support workforce sustainability in Primary Care and to bring the benefits of extended clinical and Primary Care system knowledge back into the clinical contacts while working with Welsh Ambulance Services.

The following report outlines the results of the first phase of this Pacesetter through a detailed mix of quantitative and qualitative data. Setting up and delivering the project has been a huge task undertaken willingly by a small and enthusiastic team who continue to deliver strong results. On behalf of the project board I would like to thank the whole team for their efforts to get us to this point and providing the insights that form the basis of this report. This has been a project with strong collaborations across multiple professional boundaries and should be seen as a template for the future with the potential for real workforce transformation.

Duncan Robertson

Regional Clinical Lead (North) – WAST & Project Co-Chair

Executive Summary

Introduction

Betsi Cadwaladr University Health Board (BCUHB) and Welsh Ambulance Services NHS Trust (WAST) were awarded Welsh Government Pacesetter Funding to assess the viability of an extended rotational approach to the delivery of care using a WAST Advanced Paramedic Practitioner (APP) based within Primary Care. The three part rotation incorporates Primary Care, and shifts in the WAST clinical contact centre, and solo responding.

Nine APPs started their rotation into five Primary Care Clusters within BCUHB in June 2019. The model of implementation was designed to meet the needs of the local population and is different in each Cluster. Alongside the Primary Care rotation, the APPs received a half day of formal education per week delivered by a local GP training provider.

The project team worked with colleagues from Public Health Wales (PHW) to develop an evaluation framework comprising seven elements. The findings from APP, WAST, Primary Care/Clusters elements are included within this report. Data was collected using different qualitative and quantitative methods including a focus group, APP reflections, online questionnaire, standardised questionnaire, and reported daily activity data. Work to evaluate the Education Framework, Patient Experience, Project Design and Economic Evaluation elements has been undertaken by external partners and will be reported elsewhere.

The findings from Phase I will inform the planning process and as the project progresses into Phase II.

Six Month Primary Care Questionnaire

The questionnaire was hosted on an online platform and a link was circulated to colleagues in Primary Care. It intended to capture their experiences from first six months of the Pacesetter project. Respondents (n=8), included representatives from different job roles and areas who were able to provide insight from a Cluster/Primary Care perspective.

- Respondents reported that the implementation progressed as planned.
- Several areas had reviewed the model or implemented changes to ensure the service delivered by APPs met the needs of the Cluster and patient population. These included adding APP surgery clinics and reviewing travel to ensure efficient use of time.
- Reflecting on whether they would do anything differently, two responded that they wouldn't make any changes. Representatives from three Cluster areas suggested surgery clinics from the start and another suggested a shorter induction period.
- When asked what resources or support would optimise implementation, responses included an individual to coordinate home visits, additional clinical cover and mentorship. Others suggested electronic data collection tools, and balancing room availability and busy days in surgery with APP availability. There was praise for the support provided by colleagues from WAST and PHW.
- The main benefits arising from APPs rotating into Primary Care were relieving pressure on surgeries and releasing GP time to focus on complex patients (mainly due to APPs undertaking home visits on behalf of GPs). Two areas cited the project as the foundation for potential work in future utilising paramedics in Primary Care services.
- The main challenge reported was that each APP is only available to the Cluster two days each week. Some more minor challenges were physical space and coordinating home visits between practices.
- It was thought the APP service would contribute to sustainability in Primary Care by increasing GP capacity, expanding the range of clinicians available in surgery, and potentially attracting GPs in

future. By understanding the APP role, it was anticipated that they will be utilised more efficiently in practice.

- Clusters were keen to continue working with APPs and develop their role further in future. The APPs were complimented and described as a valuable resource.

Cluster Co-ordinator Focus Group

Following the six-month questionnaire, a focus group was undertaken with four representatives from three of the Clusters to explore some of the findings in more detail. The responses were aligned to the Primary Care element of the evaluation framework.

Is the model tested the preferred model for future development within the Clusters?

- The home visiting service was discussed in depth, and worked well in terms of releasing GP time and providing "an extra pair of hands". Because of this, there was reluctance to move to incorporate surgery clinics into APP time in some areas.
- The focus group was represented by individuals from rural Clusters and some of the uniqueness of this area were captured. The APP's ability to communicate with patients in Welsh was described as "powerful". Despite being geographically diverse there was a support system in place for APPs, a strong sense of community and good continuity of care.
- The model utilised in each area was reviewed; for example, one area had started surgery clinics. Looking ahead, there was a suggestion to shorten the induction period and utilise the current APPs to support a new cohort. There were conflicting views whether withdrawing incentive funding would prove a barrier to GPs going forwards.

How do we make this sustainable?

- Good Cluster relationships and communications were said to be key to sustainability. This ensured APP time was used efficiently and the APPs could support staff shortages in Primary Care.
- GP supervision provided a source of support and guided APP development. However there was some concern that APP reliance on GPs for reassurance would have a negative impact long term.
- The input, support and collaboration with PHW and WAST was highlighted, particularly for supporting aspects of the evaluation and ensuring that the Clusters and APPs were progressing as expected.
- Overall, the selection of APPs, and their individual attributes were thought to contribute to the sustainability of the project. They were described as flexible, keen and thorough, and one respondent described how an APP went 'above and beyond' in caring for patients.
- Looking ahead, Clusters viewed the APPs as part of the team and were keen to expand the APP workforce. They identified other clinical areas which could potentially benefit from having an APP, such as minor injuries clinics. Clusters recognised the importance of investing in APPs and developing them as clinicians.

What would the Clusters change?

- The importance of collecting feedback from patients was acknowledged. Where this had already been done, feedback was positive.
- Some changes were suggested to support efficiency and utilisation for example reviewing the structure of the working day, purchasing specific testing equipment and encouraging APPs to use the laptops, and tablets supplied.

How have the Cluster changed their approach to the APP?

- Practices have encouraged patients to consult an APP where appropriate, but more could potentially be done to raise the profile of APPs before patients see them. The inconsistent approach to paramedic uniform in Primary Care was also discussed.
- The APPs were recognised as being highly skilled, autonomous practitioners, however there was some concern around the perceptions of other healthcare professionals.
- With a better understanding of the APP role and skills, Clusters can now plan how they will effectively utilise the APP resource in future.
- APPs also contributed to suggestions around working hours and additional work.

Minnesota Satisfaction Questionnaire

The Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al 1967) is a 100 item (question) tool which measures satisfaction with work and the workplace environment. Each item is mapped to one of twenty scales, with five items/questions per scale. There are 5 fixed response options per question: very dissatisfied, dissatisfied, neither, satisfied, and very satisfied.

All APPs completed the questionnaire and it was scored according to the instructions provided with the tool. The findings contribute to part of the APP element of the evaluation framework.

- Overall, the findings from the MSQ indicated that the APPs were generally satisfied with the Pacesetter rotation.
- The highest scoring individual question when the score for all APPs was combined was 'the chance to help people' and the lowest scoring was 'the way promotions are given out'.
- The highest scoring scales were Social Service, Co-workers and Working Conditions. The lowest scoring scales were Recognition, Advancement and Authority.
- The short version MSQ provided guidance for mapping scores to one of three scales; intrinsic satisfaction (based on type of work/the work itself), extrinsic satisfaction (based on environmental factors) and general satisfaction. Based on APP scores, it was noted that most of the extrinsic/general items scored in the bottom seven for raw score. In contrast most of the top scoring scales were classified as intrinsic/general. This indicates higher level of satisfaction with the type of work and job itself, and lower levels of satisfaction with external factors.
- Based on the MSQ scoring system, if scores are converted to percentages then 0-19% would represent very dissatisfied, 20-39% dissatisfied, 40-59% neither, 60-79% satisfied and 80-100% very satisfied. Based on percentages, all scales would fall in the "satisfied range" except Co-Workers and Social Service which would be classified as "very satisfied".
- The highest total raw score from one APP was 417 (maximum total 500), and the lowest 294. The mean average was 360.78. If scores were converted to percentages using the system outlined above, one APP would be ranked as "neither" for satisfaction, seven as "satisfied" and one "very satisfied".
- The standard deviation was calculated for each of the 20 scales. The Social Status and Activity scales had low standard deviation meaning there was little variation and APP scores tend to be close to the mean. The Advancement and Creativity scales had the highest standard deviation indicating diverse scoring between the APPs.
- A box and whisker graph was used to display distribution of data. This identified that the scales of Variety, Ability Utilisation, Working Conditions and Responsibility all had scores outside the whisker considered to be 'outliers'. For the purpose of the MSQ, it indicates that one APP scored vastly different to the rest of the group on a particular scale.

APP Reflection 'Am I learning?'

To fulfil the 'am I learning?' item from APP element of the evaluation framework, the APPs were asked to provide a reflection on this topic. Seven of the APPs returned a reflection, which provided a rich insight into their experience. The reflections were analysed together and nine themes arose which are outlined in more detail below:

Initial expectations and induction

"*I remember mentioning unknown unknowns-those areas of Primary Care that I was so unaware of that I couldn't identify them as gaps in my experience and knowledge*."

The rotation into Primary Care was approached with a degree of hesitancy, APPs were conscious of gaps in their knowledge. Some APPs reflected on the benefits of a longer induction period having initially spent time observing other clinicians.

Adapting to Primary Care

There was some initial anxiety around home visits and later before starting surgery clinics which was attributed to a perceived lack of confidence. Primary Care gave APPs the opportunity to practice differently, seeing review patients and providing palliative care, but with this came the burden of responsibility for balancing risk and managing patient care.

Supervision

"I feel personally that I have had fantastic support from our nominated GP supervisor, she has sought our feedback on how the scheme [can] be changed to better improve our learning experience and we have recently begun to run supported clinics."

Several of the APPs described how GP supervision and mentorship had positively impacted on their clinical practice and experience in Primary Care, providing a source of formal and informal learning.

Personal and professional development

"As a practitioner I feel my critical thinking has changed significantly and has moved away from the paramedic way of training/ thinking."

APPs were said to have experienced "shift in practice", developing skills in critical thinking, identifying areas for future learning and working autonomously. Clinically, improvements were noted in safety netting, consultation and diagnostic skills.

Education framework

"They have delivered excellent and informative sessions that are relevant to practice in Primary Care and I feel that I have been incredibly well supported by all of the doctors involved."

The APPs praised the quality of the education and support provided. The importance of peer social support, meeting as a group and sharing experiences was described as "invaluable".

Risk

The concept of risk was raised throughout the reflections. As autonomous practitioners, the APPs were responsible for perception and management of risk when caring for patients. The APPs recognised risk as being inherent to medicine, the importance of learning to manage risk safely, and seeking the opinion of senior colleagues in decision making.

Evolution of the APP model

"until this point, I have found that surgeries would often allocate minor illness complaints for my review... The vast majority of home visit patients seen have a respiratory, dermatology or musculoskeletal presenting complaint."

The APPs worked together with their Cluster to implement changes which supported development of the model to meet local need. Some APPs were initially allocated a limited range of patients for example respiratory and dermatology but were now seeing a more varied caseload.

MDT integration and inter-professional relationships

Working with multidisciplinary colleagues gave the APPs a better understand of their roles, and vice versa. This helped improve their knowledge of the local services available for patient referrals such as community audiology.

Impact on WAST

"I have taken a great deal from my time in Primary Care, improving my practice while working within the Cluster which I feel is reflected in my practice when undertaking my WAST shifts."

New knowledge and skills acquired in Primary Care were said to impact on clinical practice on WAST shifts. New learning had increased confidence and effectiveness in patient assessment and clinical management skills which reduced consultation times, and improved the APPs ability to support colleagues in the clinical contact centre.

Primary Care reported APP Activity data

Clusters were asked to collect activity data as evidence for the Primary Care/Clusters element of the evaluation framework. They were offered a financial incentive to undertake this work. Data was returned from four of the five Clusters. Overall, the data was inconsistent and there were discrepancies when compared with the activity data provided by the APPs. Data was not available from all areas for every month. Because of the compromised data quality, it was difficult to compare Clusters over time or determine whether trends such as an increase in activity were a reflection of true activity or attributable to data errors.

The Clusters collected data on five different items which are outlined in further detail;

Number of appointments utilised for APP consultations

In North West Wrexham the number of appointments with an APP used out of those available ranged from 69% to 92% and averaged 83%. In Arfon, the figure ranged from 90% to 114% and averaged 98%.

Number of APP appointments

In North West Wrexham there was a data error where the Cluster recorded a greater number of patients seen in a particular month than the APP did. Similar errors were noted in Arfon, where the Cluster data for number of appointments used, location and type of patient all exceeded APP recorded activity. In all areas there were inconsistencies between the total figures from the three data sources (total number of appointments, location of type of appointment). Generally, APP reported activity was higher than the Cluster recorded data, except Conwy West where data was missing for one APP.

Location of appointment - from five options (patient home visit, residential home, care home, nursing home and practice-based appointment).

In North West Wrexham most appointments took place in surgery clinics (n=352), and patient homes (n=47). Similarly, for Arfon the category with the highest number of consultations was surgery

appointments (n=248) followed by care home visits (n=70). Over time the number of appointments in surgery reduced and the number taking place elsewhere increased. In contrast, most patients in Dwyfor and Conwy West were seen by an APP in their own home (n=268 and 310 respectively).

There was data available for the location of 1,938 appointments (out of 2,565 reported by APPs). Of these 672 (34.7%) took place in surgery clinics, and 1,266 (65.3%) were undertaken in patient home, nursing home, care home or residential home. This is an important consideration in terms of travel time and the number of patients APPs are able to see per Primary Care shift.

Type of patient - from four options, categorised by the APP and reported by Cluster (sick patient requiring escalation, well patient requiring reassurance, unwell patient but fit for home management or complex patient requiring supervision or senior discussion).
In North West Wrexham, most patients were categorised as well but requiring reassurance. Data from Dwyfor and Conwy West indicated most were well patients seeking reassurance or unwell but able to have their condition managed at home. Both Dwyfor and North West Wrexham noted an increase in the proportion of patients categorised as complex who were seen over time, whereas the figure for Conwy West decreased.

Complaints or concerns
There were no complaints or concerns raised by patients relating to their consultation with an APP.

APP Activity data (June 2019 – January 2020)

APP daily activity data was captured to evidence the 'am I effective' APP element of the Pacesetter evaluation framework. Conwy West, Conwy East and North West Wrexham were all missing at least one month of data.
Between June and January, the APPs completed 2,565 patient consultations, ordered a range of samples including bloods, radiology and ECG, and referred to a number of primary and secondary care services.

- **Number of APP consultations** – the highest number of patient consultations took place in North West Wrexham, followed by Dwyfor, Conwy East, Arfon and Conwy West. On average, across all Clusters there was a mean total of 344 patient consultations per month, and a peak in December.
- There was variation between the Clusters across the months, but an overall positive trend and an increasing number of consultations being undertaken. By January the time to see one patient ranged from 0.9 to 1.4 hours across the Clusters. In Clusters with missing data, an assumption was made that the missing activity data would be equal to the other APP in the Cluster. This would have represented an additional 352 consultations, totalling 2,917 between June and January.
- **Supervision** – Across all Clusters there were over 430 hours of reported GP supervision, more than half took place in the first two months. There was considerable variation between Clusters.
- **Prescriptions** – An average of 40.7% of patients consulting an APP required a prescription. The percentage was highest in Arfon across all months (where the APP is a prescriber) and an increasing trend for the remaining Clusters except Dwyfor.
- **Patients not requiring treatment** – Over two thirds required treatment, and just under a third did not. Arfon had the highest percentage of who did need treatment of all the Clusters. Over time there was an increasing trend for patients not needing treatment in all Clusters except Conwy West.
- **PGDs (patient group directions)** – Overall 16.5% of patients would have been eligible for WAST PGD, with the highest number recorded in December. Arfon recorded the highest total for five of the eight months documented.

- **Conversion to GP appointment** – In total, just 6.7% of APP consultations converted to GP review. The highest proportion was in North West Wrexham, and lowest in Arfon. The month with the highest number of patients subsequently needing to see a GP was October.
- **Secondary care referral** – After consulting an APP, 2.3% of patients were referred to the Emergency Department (ED). The highest number of referrals were in October. Most came from Conwy East and least from Dwyfor. Similarly 2.5% were referred to The Medical Assessment Unit (MAU)/Surgical Assessment Unit (SAU) or The Ambulatory Care Unit (ACU). Conversely most of these referrals were from Dwyfor and least from Conwy East, potentially due to service availability.

Key Findings

- After overcoming some initial difficulties, the APPs reported a generally positive experience. The supervision provided by GPs and integration with other healthcare professionals were found to be beneficial. The reflection provided a rich insight into the experience, describing positive changes which also influenced their practice on WAST shifts.
- From a Cluster perspective, the APPs are perceived to have had a positive impact, and even at six months, practice staff and Clusters could recognise benefits of having an APP in practice and how they could contribute to future sustainability in Primary Care. Several areas were reviewing the service to ensure it continues to meet local demand. There was an in interest in expanding APP capacity and developing the role in future.
- Activity data indicated that the APPs had made a significant contribution to Primary Care. However, data collection was inconsistent from both Clusters and APPs, and the quantity of missing data meant it was difficult to draw conclusions over time or between Cluster areas.

Recommendations

1. Surgery clinics - Feedback from Primary Care representatives indicated that it would be beneficial for APPs to consult patients in surgery clinics from the start of the rotation. It was found to provide APPs with exposure to a broader range of patients and clinical complaints than home visiting alone. However, it is important to maintain the home visiting service provided by APPs as it relieved pressure on surgeries by releasing GP time to focus on complex patients.

2. Implementation support - The implementation of Phase I was supported by extensive consultation between the project team, Clusters and Primary Care staff. Cluster representatives were satisfied with the implementation process, therefore it will be important to continue regular communication to support the implementation process in Phase II, particularly as there may not be the same level of input from PHW and WAST in future.

3. APP Whole Time Equivalent - There was some disappointment that each APP was only available to practices for two days each week. Clusters expressed an interest in continuing to work with APPs, to develop their role and expand the service in future. An increase in the number of APP WTE would potentially provide cover across the whole week in Primary Care.

4. Senior mentorship and support services - The APP reflections provided evidence of the positive impact of GP supervision. From a Cluster perspective, the experience was generally viewed as positive, but there was some APP reliance on GPs by APPs seeking reassurance. In a future model, this role may fall to experienced Primary Care APPs. Therefore, there must be a clear understanding of boundaries whilst maintaining patient safety.

5. Raise the profile of APPs in Primary Care - Feedback from the Cluster focus group indicated that patients were satisfied with the service once they had seen an APP, however more could be done pro-actively to raise awareness of their presence in surgeries.

6. Peer support – The social support from the education sessions had a positive impact on the APPs. Recent changes mean the education is likely to be delivered using a virtual platform for the foreseeable future. The project team and education providers need to ensure consequences of reduced peer contact are identified and mitigated where possible.

7. Data collection – One of the greatest areas of weakness in Phase I was data collection. In Phase II, there is a need for clear expectations and accountability with regards to activity data collection. Improvements have already been made to streamline the process for APPs and feedback may help improve this process for Phase II.

8. Wider impact - There has been strong focus on the impact for Primary Care in Phase I. Phase II seeks to understand the impact on WAST. The evaluation will focus more on the clinical contact centre and solo responding aspects of the rotation and skills such as leadership and autonomous working. From a Primary Care perspective, further work need to be done with patients, GPs and other healthcare professionals to gather the opinions of a wider range of individuals, and triangulate the evidence.

9. Dissemination - An initial literature review identified a lack of research around the APP role, particularly those working in Primary Care. The project team have developed a publication strategy and are keen to disseminate the findings from this report in paramedicine, Primary Care and emergency care journals in the coming months.

10. Train where you work - Some of the Cluster feedback, particularly from rural areas identified the "powerful" impact of the APPs conversing with patients in Welsh and how integrating culturally has the potential to improve continuity of care for patients. This provides support for proposed model of 'train where you work' so that APPs work in Primary Care area in the region they would ordinarily be based for WAST APP shifts.

Introduction

Betsi Cadwaladr University Health Board (BCUHB) and Welsh Ambulance Service Trust (WAST) were awarded funding for a Welsh Government Pacesetter project for the period 2018-2021. Pacesetter

funding is allocated to "*provide systematic approach to testing and evaluating new and innovative ways of working to achieve the aims of the Primary Care Fund namely achieving sustainability, improving access, and delivering more care in the community.*" (Primary Care One, 2020).

Recent publications from NHS England (2016) and National Institute for Health and Care Excellence (NICE) (2018) have recognised that paramedics have the potential to support service delivery in Primary Care and recommended that they undertake certain roles on behalf of GPs. This will help address some of the current challenges such as increased demand and workforce gaps, and support development of Primary Care services by expanding the multidisciplinary team (MDT).

Aims

The Project intends to address the viability of an extended rotational approach to the delivery of care using a WAST Advanced Paramedic Practitioner based within Primary Care. It builds on the North Wales pilot which successfully tested the deployment of a WAST APP in a community-based response vehicle by a call centre APP clinician.

It is based on the assumption that there is a role for the WAST APP in the delivery of Primary Care services to compliment that of the emergency response model tested as part of the pilot. It is anticipated that the project will benefit patients, APPs, Primary Care, WAST, BCUHB & Welsh Government. The rotational model offers APPs an opportunity for career development without depleting paramedic workforce.

Objectives

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.

Background

A Project Team was established with representatives from WAST, BCUHB and Public Health Wales. In early 2019, BCUHB Cluster areas were approached by the project team to gain support for the project. All areas were interested; therefore Clusters were invited to submit an expression of interest. Five were successful in securing the project. Cluster Leads were fully involved with the development of the project and each Cluster has designed their scheme to ensure it meet the needs of the local population and practices.

Nine APPs who had completed a Masters level qualification in advanced clinical practice were appointed. One had already achieved their independent and supplementary prescribing qualification (Arfon). A further three APPs are currently undertaking the qualification (one each from North West Wrexham, Conwy West and Conwy East). As part of the project, each paramedic was supplied with a basic kit (including items such as a stethoscope) and one car per Cluster area. They each have a laptop and tablet provided by WAST which they are able to use during Primary Care shifts.

The APPs started their rotation into Primary Care with a project launch in June 2019. Each APP works two days in Primary Care per week, providing four days cover for the Clusters with two APPs. The remaining time is spent on rotation in their WAST role between the clinical contact centre and solo responding.

The model of implementation in Primary Care and brief demographic detail for each Cluster area is outlined below together with a map of all Clusters in North Wales (Primary Care One, 2020a).

North West Wrexham – An urban area covering six practices and a population of 40,000. There are two APPs in this Cluster who underwent a rigorous induction. For the first six months they spent a month in each surgery. The APPs perform home visits and surgery clinics.

Conwy East – This Cluster resides along in a coastal strip incorporating several tourist destinations. It covers five practices with a population of around 54,000 people, of which 46% live in the most deprived two fifths (40%) of areas in Wales. Two APPs exclusively undertook home visits until January 2020 when they also started surgery clinics.

Conwy West – The Cluster serves around 63,400 people covering a wide geographical area. There are twelve practices, three of which are rurally based. Two APPs provide a home visiting service for three practices in the Cluster.

Arfon – The registered population in this area is almost 68,000 and covers ten practices. One APP is based in a single practice supporting home visiting and surgery clinics. As a Cluster, 32% of patients live in rural areas and a higher than average percentage of the population speak Welsh.

Dwyfor – Five practices in Dwyfor serve a population of 25,000. Two APPs offer home visiting in this Cluster. There is a higher than average proportion of patients living rurally, aged over 65 (27%), and highest number of Welsh speaking patients of the North Wales Clusters.

Each Cluster was offered £10,000 per annum (based on a placement of 2x APPs working over 4 days a week and half day CPD). A further £1,000 was available per placement to support practice based Clinical Supervision. It was expected that the clinical supervisor would take responsibility for ensuring the APP spent time reflecting on their practice, identifying areas for personal development, and explore areas where they can support service and patient developments within Primary and Community Services. In order to fully evaluate the project, Clusters and practices were asked to collect data on a regular and ad hoc basis. In recognition of these requirements, an additional £1,000 per placement was made available.

The project team commissioned a local provider to develop the Education Framework and deliver the weekly session during the protected time on Wednesday mornings. It was taught from a central location and all APPs were required to attend.

The project team collaborated with colleagues from Public Health Wales to develop an evaluation framework. The theory of change lead to the use of the logic model approach which was selected to map and construct the detailed evaluations required for each of the areas identified. The final evaluation framework comprised seven elements: APP, WAST, Primary Care/Clusters, Education

framework, Patient Experience, Project design and Economic Evaluation. The first three have been evaluated internally and the findings are contained within this document. The remaining elements have been evaluated by external partners in Phase I and will be reported separately.

The data collection tools were selected by the project team to fulfil the requirements of the evaluation framework. The project has been lodged with the Clinical Audit department in BCUHB as it meets the criteria for classification as a service evaluation rather than research. They have approved all tools before use as has a representative from Information Governance. In addition, where necessary, data sharing agreements such as DPIA (data protection impact assessment) are in place between BCUHB and WAST.

This report provides a summary of the evaluation undertaken in Phase I. The findings have informed a set of recommendations which will support optimal implementation and development of the project into Phase II.

Chapter 1. Six Month Primary Care Questionnaire

Background

The project team were keen to learn about the experience of implementing the Pacesetter project from a Primary Care perspective. It was anticipated that the findings would inform the ongoing development of the project. The questions encouraged the respondents to reflect on both the positive and negative aspects of the experience, how they adapted the project to meet the needs of the Cluster and consider how it could contribute to the sustainability of Primary Care long term.

Methods

The questionnaire comprised eight core questions. Information was also requested on Cluster area, name and job role.

A questionnaire provided evidence for the "Does this work for the Cluster?" Primary Care element of the evaluation framework. The questions were agreed by the Pacesetter project team and the BCUHB Information Governance department approved the content. It was translated into Welsh in accordance with the Welsh Language Act. Data was collected and reported within the constraints of a service evaluation.

The questionnaire was hosted on the Smart Survey platform and the setup allowed respondents to skip any questions they did not want to answer. A link to the questionnaire was circulated by email to ten Cluster co-ordinators and Cluster leads in the five areas working on the Pacesetter project. The recipients were asked to forward the email to the practice teams and encourage them to take part but it is not known how widely the link was circulated. A reminder email was sent by a member of the project team, however it coincided with the outbreak of the Coronavirus pandemic and no further responses were received.

- Eight respondents completed the questionnaire, comprising a GP, Practice Managers and Cluster Coordinators.
- Responses were received from staff in four of the five Cluster areas; North West Wrexham, Conwy East, Conwy West, Dwyfor. The questionnaire was not completed by any staff from Arfon Cluster.
- One respondent had been involved with the project since before the APPs started the rotation and assisted in setting the project up in practices. Another was involved from October 2019. The remaining six respondents been involved since the start of the rotation in June 2019.
- All questions were skipped by at least one respondent.

Results

The verbatim responses are documented beneath each question below.

Question 1. Did the implementation process go according to plan in your area?

Seven responded 'yes' the process had gone to plan in their area. One respondent from Cluster D stated that there had been a change in the educational needs of the APPs and that they required experience in surgery clinics as well as home visits, and that the adaptation is working well.

Question 2. What adaptations have you made to ensure the APP Project meets the needs of your local area?

Two of the Cluster areas added surgery clinics to enable the APP to work in the practice with GP supervision.

"*Clinics added to ensure APP sees patients within the surgery setting, ensuring there is a GP to supervise at all times*." (Cluster C)

In Cluster D, these changes had been made to minimise travel time and ensure that APP time is used efficiently.

"*We started with a Cluster wide approach with the paramedics working across the Cluster every day. This has changed to rotation surgeries daily to minimise time wasted in travel*." (Cluster D)

"*Home visits/Face to face surgery consultations*." (Cluster D)

Similarly, in Cluster A there were plans to review travel to minimise the time APPs spend travelling and improve productivity.

"*Due to the extensive geographical area the APPs cover we are currently auditing the time spent travelling to the visits as a lot of lost time is spent travelling. We can then review the structure of the visits to improve productivity and learning time*." (Cluster A)

Another respondent from Cluster A outlined how the service was being reviewed. The APPs had been flexible and supported a change to incorporate an additional practice.

"*None but the service is continually being reviewed. Due to the APPs having more capacity, they were happy to extend the service to [practice], which has been a tremendous help to them*." (Cluster A)

Some of the changes were more practical in nature, such adapting working practices due to lack of room space.

"*The challenge we have is room space in the Cluster, however we have been able to provide laptops for flexibility and for the APPs to work between practices and doing home visits depending on need and space*." (Cluster E)

It is encouraging for the project team that Clusters were reviewing the model and implementing changes to ensure that APP time was used efficiently.

Question 3. If you were to start the process again, what would you do differently?

Two respondents from Cluster A stated that they wouldn't change anything.

From several Clusters there was a consensus that APPs starting surgery clinics earlier would be beneficial to the APPs starting their Primary Care rotation.

"*Allow access to in surgery clinics earlier in the Project*." (Cluster C)

"*I would start clinics from the beginning*." (Cluster D)

"*We will now have more idea about what and how soon APPs are competent to do things. Maybe have them based in one practice from start with that practice supervising on behalf of the Cluster?*" (Cluster E)

One respondent suggested that the induction period may have been too long. They also thought that surgery clinics would provide the APPs with experience consulting a wider range of clinical conditions, before moving on to home visits.

"*On reflection, we would rather had had shorter induction period, We would implement clinics, then HV [Home Visiting] service this would give the APP's a broader experience of clinical demand, initially*

then introduce home visits based on demand from practices within the Cluster to help support sustainability." (Cluster D)

One respondent would have liked more notice prior to the start of the APP rotation, but no further details were supplied.

"*More notice prior to start date*." (Cluster D)

Question 4. What additional support or resources would help you optimise effectiveness of the Project?

The responses were varied when asked about additional support, however most related to additional human resource, for example a person to co-ordinate home visits between practices.

"*Having someone to co-ordinate the visits would help and would ensure fair distribution of visits across the four practices*." (Cluster A)

From Cluster D the response was additional clinical cover. It is possible this refers to GP supervision but cannot be determined from the response.

"*Additional Clinical cover/mentorship*." (Cluster D)

It was recognised that working on a rotational basis and working in Primary Care on specific days may limit development opportunities for the APPs.

"*I guess some of the challenge is the fact that APPs are only in a couple of days per week and not always the busiest days or the days when rooms are available, this may have limited opportunities for APPs development - but we managed*." (Cluster E)

One respondent praised the support from WAST, PHW and the Project team and explained how maintaining regular meetings supported them to deliver the change model.

"*The support has been fantastic from the WAST Project Support Team and PHW colleagues. They have contributed to the evaluation. [WAST team member] has kept us all on track ensuring we have regular catch up's and having the monthly discussions have been really helpful in delivering the change in model as required*." (Cluster D)

Electronic data collection was mentioned, however it is unclear whether the response referred to APP activity data or data collected as part of the Cluster evaluation.

"*Electronic data collection would be helpful*." (Cluster A)

Question 5. What have been your main benefits or successes relating to the APP Pacesetter Project?

Several of the Clusters found that the APPs undertaking home visits had freed capacity for GPs to see more clinically complex cases.

"*Reducing GPs attending home visits therefore increasing GP capacity to see patients at the surgery. We are planning to include surgery consultations at the start of the day, supervised by the GP, so as to improve learning can be achieved for the APPs.*" (Cluster A)

"*Being able to allocate some of the visit workload to APPs has been an invaluable resource.*" (Cluster C)

"*Allowing the APP to go out on home visits has allowed the visiting doctor to see patients in surgery therefore increasing the number of available appointments.*" (Cluster C)

The collaboration between WAST and BCU was thought to have built a stronger working relationship.

"*Reduced workload of GP visits - better understanding and relationship between WAST and Primary Care."* (Cluster D)

Good working relationships between APP and clinician, and between practices within the Cluster was another positive outcome of the project.

"*Greater relationships between APP's and Clinicians, being able to co-ordinate the rota and linking in with practices to inform them of when [the APPs] were on duty - works really well*." (Cluster D)

Once Clusters were aware of the skills the APPs had to offer, one Cluster was looking to how APPs could be further utilised in future to develop a sustainable service.

"*Been great to see how we can develop this service further as a Cluster. We are currently looking to employ a team of paramedics to develop a sustainable Primary Care support network dealing with care homes, home visits, high attender patients etc.*" (Cluster E)

"*For the practices, it releases capacity for GPs to see other patients. This project also provided me with an opportunity to develop another project (APPs supporting OOH services - winter pressures bid) so there has been a lot of collaborative working across the Cluster A area. Developing good working relationships has also been achieved and this project has supported the APP in the [name] area so that an equitable service can be provided for Cluster A patients*." (Cluster A)

There was also a focus on APPs and how the Primary Care rotation had developed their skills to become confident, independent clinicians.

"The paramedics relieve pressure on the surgeries both with home visits and clinics when working. As their clinical supervisor I have seen an improvement in clinical ability and have seen them become better independent, confident clinicians." (Cluster D)

Question 6. Please outline some of the challenges or barriers you have faced during the implementation of the project.

The challenges and barriers were similar to the answers provided to the question asking about additional support.

One respondent reported no challenges.

"*None from my point of view*." (Cluster A)

Physical room space was a challenge in Cluster E.

"*Space*." (Cluster E)

The remaining responses were related to the APP times as a resource, either co-ordinating home visits or the limited time they are available to practices due to the rotational aspect of the project.

"*Co-ordinating the visits between the 4 practices*." (Cluster A)

"*Availability of APPs due to placements*." (Cluster C)

"*Having each paramedic only twice a week. Understanding and meeting their educational needs whilst balancing this with the need of the Cluster to see patients especially on home visits*." (Cluster D)

It cannot be determined whether the response from Cluster D refers to administrative time by the Cluster undertaking evaluation, or the admin requirements of the APP.

"*Administrative time and clinical time constraints*." (Cluster D)

Question 7. In what ways will the APP Pacesetter Project contribute to the sustainability of Primary Care in your area?

The impact of home visits was referred to several times in response to the question on sustainability, as GPs were able to spend more time seeing patients in surgery clinics.

"*Alleviating the visit workload as we have a high percentage of elderly patients with co-morbidities*." (Cluster C)

"*Increasing the number of appointments, thus reducing the workload of SP's*." (Cluster C)

The service provided by APPs was described as "valuable" and respondents described how APPs were able to undertake more frequent home visits, potentially preventing additional telephone calls into the surgery.

"*This project is important for the sustainability of practices in Cluster A. Cluster A has a high proportion of elderly patients and many live independently at home or at nursing/residential homes. Prior to this project, the [name] practice struggled with providing these visits due to GP shortages. Although we now have more GPs, the APPs provide a valuable service, enabling GPs to stay in the practice to see more complex patients. Also, by undertaking visits more often, I believe the number of telephone calls coming into the practices has reduced.*" (Cluster A)

It was thought that increased GP capacity could attract doctors to the area in future.

"*The project has definitely improved GP capacity and presence within the practice as the time previously spent on GP visits has decreased dramatically. This has a major impact on sustainability of Primary Care in the area and is welcomed by all GPs, which will in the future, hopefully, help attract and retain GPs to the area*." (Cluster A)

Now that the APPs have spent several months in Clusters, the teams have a better understanding of their role and how they can be best utilised in Primary Care.

"*Help us to develop future support services as mentioned above - has given us more understanding of the role of an APP and how they can assist in Primary Care appropriately*." (Cluster E)

Having an APP in Primary Care widens the range of clinicians available to see patients. The APPs also benefitted from the acquisition of new skills transferrable to their role in WAST.

"*It expands the type of clinician available to see patient's within Primary Care. It will also enable APPs within WAST to work more independently*." (Cluster D)

One respondent felt it was too early in the process to assess.

"*Too early to assess*." (Cluster D)

Question 8. Reflecting on your first 6 months, do you have any additional comments not covered by the questions above?

Reflecting on the first six months, the APPs have left a positive impression and Clusters are keen to develop the role in future for the benefit of patients.

"*I think this is a fantastic project and the APPs are very accommodating and knowledgeable. They are willing to learn and I hope we can develop their roles further to help avoid hospital admissions and support elderly patients at home*." (Cluster A)

"*Would be great to have them for longer so can see the outcome of all the training and support given - this will then give more idea of the full potential*." (Cluster E)

APPs were viewed as a valuable resource to the Cluster and were perceived to have benefitted from learning opportunities and supervision.

"*This is a valuable service/project for both GP practices to help with workload and also to the APPs involved by providing them with learning and training and quality supervisions within a Team of experienced GPs and practice staff. The APPs are definitely a valuable resource to have to contribute to the sustainability of Primary Care in the future.*" (Cluster A)

There was concern that Phase I data would not capture the full potential of the APPs in Primary Care. The data collection and evaluation will continue into Phase II and early findings will be publicised to promote best practice and help the APPs, practices and Clusters as they progress.

"*I worry that collecting data in the first year of the project to measure the effectiveness of APPs within Primary Care may underestimate their value as with an educational role they will often take up resources before any effect is seen. I feel that the second year may be more representative of this*." (Cluster D)

Discussion

Despite the small sample size, there are some common themes from the responses. First, the biggest benefit to Primary Care has been the increase in GP time as a result of APPs undertaking home visits. Some respondents touched on potential implications such as attracting GPs to the Cluster, fewer phone calls to the practice and potentially ED avoidance. The practices valued the new knowledge and skills that the APP brought to the Cluster and had a better appreciation of their role and how they can be utilised most effectively.

All responses to the question asking whether implementation went to plan were positive which suggests that the process was well planned and staff knew what was expected. It was encouraging that several Clusters were reviewing the service periodically and making changes to meet the needs of the Cluster for example extending to incorporate an additional practice. Some adaptations were practical for example reviewing travel and working flexibly. Cluster C and D introduced surgery clinics and changed the rotation between practices.

When asked what Clusters would do differently if they were to start again, all but one respondent would initiate surgery clinics from the start, followed by home visiting once the APPs were more established. Although the number of respondents was low, this will be an important consideration for rollout for future cohorts of APPs into Primary Care rotations. The remaining respondent would have liked more notice prior to starting the project. Communication with practices prior to rollout could also be reviewed in future to ensure satisfaction from Primary Care colleagues.

The Clusters varied in response to the question asking what additional support or resources would optimise effectiveness of the project. Some focused on practical resources like electronic data collection. The project team have experienced some challenges developing the Power App for data collection. From a resource perspective, the support from the project team was complimented. One Cluster found that the APPs Primary Care days were not necessarily busiest for the practice. This is a challenge inherent to the limited APP resource in WAST/North Wales and nature of the rotation.

Cluster A commented that a home visit coordinator would ensure fair allocation between practices. Another Cluster on the Pacesetter project works on a system where each practice is allotted a specific number of APP home visits daily, relevant to the practice size. Although the two areas are geographically different, it demonstrates that there is still potential for Clusters to learn from best practice in other areas.

Similar responses were received when asked about barriers and challenges. One respondent stated admin and clinical time limitations. The project team have invested a great deal of resource into the project and were interested to learn about some of the qualitative benefits to Primary Care which may not otherwise be captured. Most of the responses centred around releasing capacity and pressure on surgeries, describing APPs as “an invaluable resource”. Clusters also cited good working relationships as a benefit. It was positive that respondents were looking to develop the APPs as clinicians and increase capacity in future. Cluster A plan to introduce morning surgeries, supported by a GP to improve learning for APPs, while Cluster E were looking to employ more paramedics to support home visit and develop a sustainable network.

The final question asked for any additional comments reflecting on the first six months. All were keen to continue working with and developing the APPs. Two respondents cited the importance of data collection into Phase II as first year data may “underestimate their value”. This may be because the practices viewing the APPs as a long term investment having provided significant training and support.

As it was still relatively early in the project when the data was collected, some feedback indicated that it may be too soon to fully realise the benefits of having the APPs in practice. This highlights the importance of evidencing the impact of the APPs in Primary Care and sharing the findings widely.

Chapter 2. Cluster Co-ordinator Focus Group

Background

The focus group with Cluster co-ordinators was undertaken and aimed to capture Cluster perspective of the impact of APPs. The topic guide used for the focus group intended to build on the findings of the six month online questionnaire.

Methods

In February 2020, a focus group was convened with three Cluster co-ordinators and a senior Cluster co-ordinator who represented three of the five Clusters. One co-ordinator was not able to attend and the post is currently vacant for the fifth Cluster.

The focus group aimed to fulfil Primary Care elements of the evaluation framework. The topic guide was approved by the project team and BCUHB Information Governance department. The Head of Clinical Audit & Effectiveness agreed that the focus group was being undertaken within the remit of a service evaluation. The focus group was audio recorded and transcribed verbatim. The transcript was reviewed manually and organised into themes, using principles of thematic analysis (Braun & Clarke, 2006) which have been arranged around the four questions from the evaluation framework.

Results

Is the model the preferred model for future development within the Clusters?

Home visiting service

The home visiting service provided by the APPs was discussed in depth.

In some areas the APPs started with home visits, and Clusters described the positive impact for GPs.

"*The idea that they support the practice by going out to do the home visits because there're a lot of nursing homes in [name] and [name] areas. So, that was having an impact on the GPs to go out and do the home visits. So, we thought that was a good start there*." F1

"*They've been really, really key, especially in the early days to home visits*." F4

One area discussed the potential for APPs to provide surgery clinics in future but commented that the home visiting model was working well, particularly where there is a shortage of GPs. This respondent thought the APP home visiting service saved significant GP time, particularly when required to travel to some of the rural areas in the Cluster.

"*Clinics is something that we want to explore but ultimately a home visit for a GP in our end could take potentially three hours with the travelling…at the moment the demand is home visits, isn't it…and because we're low on GPs as well…if a GP had to do a home visit then it's not just going to that visit, it's that travelling there and back. So, actually it wasn't that most efficient way of working really because it could took a few hours to do one visit…taking a GP out for an afternoon it's just not an option, is it*?"*… taking over those home visits saved quite a lot of time for a GP really*." F2

"…it's just been invaluable really and it leaves GPs to see the more complex cases in practice." F2

This also eased pressure on Practice Managers who could see the value the APP brought to the practice.

"*GPs find it a benefit because obviously they can stay in practice. That's a huge thing. The travelling is reduced for GPs, The practice managers…It's less stressful for them, you know, because they've got that extra pair of hands*." F2

Accounting for Rurality

The focus group was represented by individuals from rural Clusters where adaptations to the model had been necessary to meet the unique demands to the service in these areas.

The APPs ability to communicate in Welsh was felt to be important to patients.

"*…the fact that they can speak the language as well is just a huge help for us in our area*." F2

One respondent outlined how they adapted their questionnaire to capture the importance of bilingual communication from a patient perspective.

"*That's quite a powerful thing that we need to be capturing in the West because if you can provide a service in the Welsh language that is…you know, that makes such a difference, but that wasn't captured in the questionnaire. So, we've added I think one, maybe two questions in because I think we need to be capturing that as well, more so in the West*." F2

Although some of the rural areas are geographically widespread, the sense of community means that the APPs have built relationships with patients they see regularly.

"*they see the patients regularly, they're getting to know [the APP]… it's like building that relationship. Whereas if it was a bigger area…the list size is so big they probably wouldn't see, you know, all those patients as often*." F1

As a result of working in Primary Care, some of the APPs completed phlebotomy training to offer an efficient service to patients living in rural communities.

"*If you're far away and you're there in the patient's house it makes sense for you to be doing that [phlebotomy] and bring them back*." F2

Despite working rurally, systems were in place to provide support to the APPs.

"*There's no feeling…because it could be quite an isolating role, couldn't it, potentially if you're just on the road, home visits, but that hasn't come up, has it, as a…we don't feel that*." F2

"*During the day if they need any support or advice they can pick the phone up and there's always somebody there to help*." F4

The rural geographic location was felt to affect patient and staff resilience in some areas.

"*I think…no offence to other Clusters but I think the more rural you go the more resilient the staff and the patients are because they're so far away. Whereas, you know, if you're down the road to a general hospital potentially it's all…*" F2

Evolution of the model

In one area, the Cluster were exploring the APP role (being new to Primary Care), and making changes to the model to meet the needs of the service and maximise efficiency.

"*it has changed slightly. So, they were quite keen for the APP to be doing clinics. So, it was about exploring the role of APP, wasn't it? We didn't just want to put them in a box in terms of, 'oh yeah, they're going to be out taking all the home visits'. We wanted to try different ways. So, we based him in a clinic as well. So, we were quite keen to try different models just to see how efficient it could have been and we can then compare because it's not set in stone, is it, how many APPs could be worked."* F2

They spoke of the potential for the current cohort of APPs to train and support future APPs starting a rotation into Primary Care. This would provide a self-sustaining model and reduce the need for GP supervision.

"*You know, and as these APPs develop they'll be able to, you know, train the new ones coming through. …which will then relieve the clinical…, the GP support as well, won't it*?" F4

The decision was made by the project team to withdraw specific funding in Phase II that had been previously provided to support GP supervision. It was anticipated that current APPs would not require the same level of GP support in Phase II and that they could mentor future cohorts. There was some concern from one area that it may discourage GPs.

"*I'm not sure about that because that might be a bit of a barrier from the GPs do you think*?... *that was [GP's] comment to me. When she was in the office the other day, she was not happy.* " F1

A colleague from another Cluster disagreed, instead recognising the APPs contribution to the Cluster regardless of funding.

"*I also need to see the impact they're getting…what they're getting back because they're getting this for free, aren't they? They're getting less appointments potentially……seeing less patients they get more, you could argue…., if you've got another member of the team that's reducing potentially your workload…It's any GP's role to be mentoring colleagues and staff*." F2

Some thought that the Pacesetter project may have initially been too slow for the APPs but has since improved. The importance of home visits was acknowledged but starting practice based clinics has exposed the APPs to a wider variety of patients, enabling them to develop as Primary Care clinicians.

"*training maybe shouldn't have been so long. I think they wanted to get stuck in and get out there. they wanted to get out and obviously do…they were doing visits but also they wanted to go and get stuck into the clinics. That's why we've introduced that…it's working quite well. They're finding it more interesting because they're getting a bit of variety, more skills, aren't they?*" *F4 "…and learn on the job*." F2

How do we make this sustainable?

The themes relating to sustainability are centred on human factors and relationships.

Cluster relationships

Good Cluster relationships and working together was said to be key to ensure fair provision of APP time.

"*It's key that Clusters are working together because this would never have worked if practice weren't…engaged and a bit of give and take and a bit of understanding that actually that practice has got a big demand, they've got nine care homes, we need to be fair in how we distribute their time and stuff. So, that could have been really challenging in a Cluster who were saying, 'no, we want exactly the same provision, we want them in our Cluster'. That kind of discussion. So, I think that's key, isn't it*?" F2

This included practices being flexible and working together to use APPs effectively to support staff shortages.

"*We've had to sort of look at things because in [practice] they were short staffed on a Friday. So, they said, 'oh, could we have the APP on this day, you know, because it's imperative for us?' And they said, 'yeah, we've got enough GPs'. So, they work together to try and make sure the work is covered*." F1

"*When a practice is really struggling the practice are happy to say, 'do you know what, we can handle it, you take it'. That's important, isn't it, now in terms of sustainability stuff*." F2

"*They've been really supportive of one another and like, as you said, if, you know, somebody's struggling they'll, you know, support*." F4

The APPs also demonstrated flexibility, adapting to undertake home visits for practices struggling for capacity.

"[The APPs] *have been very amenable, if a practice was struggling for extra home visits that day the practice manager would make contact with them and then they go over and do an additional visit for another practice. So, the Cluster has actually worked really well together*." F4

Good communication and working relationships between the Practice Managers was beneficial for the Clusters.

"*The PMs work well, don't they…they get on, which is helpful…They communicate quite regularly*." F2

In one area, the respondent outlined how staff from managed practices are now working across different Clusters.

"*We did extend the initial proposal to include [practice], so, and they're the managed practice. So, technically our provision is now for three managed practices across two Clusters. So, it's quite interesting to see the dynamics working across two Clusters*." F2

In some areas, the Clusters engaged directly with the APPs to learn more about their experience and how it was working for them.

"*I think it's really key to have them round the table because they need to share their own experience of what it's been like for them. You know, are they enjoying it, are they not*?" F4

In other areas, this didn't happen as the Cluster were conscious of the limited time APPs spend in Primary Care.

"*It's a hard one because we don't really want to pull them either because they're only doing…so two days each we try not to pull them for any meetings or discussions or anything*." F2

GP Supervision

GP support and supervision was thought to drive the APPs personal development and learning. For some GPs this was a mutually beneficial experience.

"*they've got [GP] as their clinic lead support, which is working really well…the continued support we've had from [GP] with [the APPs] because she's actually…you know, she's driven them forward with this and she's been there, you know, regularly for them and it's sort of continued support, which has really helped having that one person… I think she's enjoyed it too*." F4

The APPs were encouraged to consult with the GP following home visits for support or to debrief.

"*What [the APPs] have been doing is going back to that surgery after the visit and if they needed to speak to a GP they'll get GP support from somebody within the practice. The practice managers have been keen to this, they've been really engaged*." F4

"*the two in [Cluster], they do touch base and they start in [practice] every morning and that's where [the GP] is and they finish their day there as well. So, in terms of touching base with their clinical lead*." F2

It was acknowledged that the APPs may not need supervision every day but it was available when needed.

"*I don't suppose they have supervision every day but there's always a doctor. If there's anything…a case that they're not sure about there's always a doctor there*." F1

Although GP supervision was seen as important for the APPs new to Primary Care, there was concern that some APPs were becoming reliant on GPs and seeking reassurance excessively which was described as a "hindrance".

External support

The APPs started their rotation in Primary Care as part of a Pacesetter project and received external support from Public Health Wales and WAST which was praised by individuals in the Focus Group.

"*She's not with us anymore but she'd been a great support from, you know, looking at the Logic model within Public Health Wales*." F4

Meetings instigated by WAST ensured that that key stakeholders met regularly to review progress and identify any issues for discussion.

"*[WAST staff member] has been great. He's been attending, you know, the regular meetings, chasing me to get everybody together and just really wanting an update on progress to see how [the APPs] are getting on, how we're finding it as a Cluster, you know, is it working, what's not working? So, that's been really useful*." F4

The work with WAST was recognised as a positive collaboration between the two organisations and an opportunity to integrate resources.

"*the support from WAST that we've had into BCU into Primary Care, has actually been amazing about linking services together, you know, integration…ask the question and they'll do what they can to work with us*." F4

One respondent complimented WAST and how they had been receptive to changes requested by the Cluster for example APPs taking patient blood samples on home visits in rural areas.

"*they're very open to change because I remember with the bloods discussion we had at the beginning, emailed them going, 'oh, they're thinking of taking bloods', and you said, 'oh, they don't actually do that in WAST but feel free to go…' you know, they're very forthcoming in terms of there's no, 'oh'…*" F2

APP recruitment and selection

One of the factors which appeared to contribute to the success of the project and influence long term sustainability is selection of APPs. In one area, they were already known to the practice and had built trust with the GP.

"*ours in [Cluster] were already doing a few sessions before this project, weren't they? In their overtime they were supporting the practice. So, that has really helped because they already know them…., they get on well, don't they, and [GP] because he knows them. And it's that…yeah, it's that trust, isn't it*?" F2

"*he's very keen and he's very thorough and he's settled and the staff know him. There're no qualms there.*" F2

Referring to one APP, they described how he went 'above and beyond' to help his patients.

"*as part of the project I think to see what it does and, yeah, he's really good, he is really good, but he doesn't just do the one visit, he'll go back again, especially if it's like a palliative, you know, just to say, 'how are things?' so he thinks, oh, I'll just go and check on whoever, Mrs Jones*." F1

"*that's his nature though, just to help everyone. That's his, how he…do you know what I mean, he does go above and beyond, doesn't he? That's the old school way of doing, definitely, and he is old school, isn't he*?" F2

The APPs were well thought of by staff and patients.

"*Lovely characters, aren't they, and patients do love them*." F2

"*You feel better just seeing him… You know, he's like a tonic, do you know what I mean*?" F2

Generally, feedback indicated that APPs were flexible to meet the needs of the practice or Cluster.

"*they're very flexible as well*." F2

In one instance where the APP was reluctant to perform an additional visit, it was noted by the practice who had been disappointed at the response.

Phase II and beyond

When asked what Phase II looked like, the responses were focused on increasing the numbers of APPs and developing the services in practices.

"*This is the way forward, isn't it*?" F2

"*More APPs…More clinics for practices*. *You just want more coming through*." F4

"*Because it's another body, isn't it, to help with sustainability*." F1

Clusters were looking to the future and planning how additional APPs could potentially provide cover across the week.

"*I mean the only gaps that we've got is when they take annual leave, which is, you know, fair enough, everyone's entitled to their holidays… it'll be great when the new cohort come through if we can rotate and include the Wednesdays and then we'll have five days then."* F4

At present the APPs are working where there is greatest demand, which is often home visits. The potential to spend time working in out of hours or MIU was mentioned as a way to develop the APPs by extending their knowledge in a supervised environment.

It's making sure as well they're getting exposure to different elements within Primary Care. So, that's a luxury. When they're doing clinics …you get that exposure. That's why we wanted them to be working with out of hours, you know, the winter pressure one because, again, the deal was slightly different. You know, minor injuries, MIU we wanted to expose them to that as well. So, I suppose that's a challenge because at the moment there is, in [Cluster] particularly, home visit, that's where the challenge lies and that's where they're being deployed to, isn't it? But it would be nice if they could get a bit more variation, maybe MIU clinics, that kind of thing. So, maybe that would come because that would extend then their knowledge and stuff." F2

One GP was keen to ensure the APPs had enough time to develop their role and skills going into Phase II, viewing APPs as a resource to be invested in.

"[GP], *the clinical lead, feels that we should be giving them more time to develop themselves …because it was one of those things, we'll try it and see, but if they're not having enough time to*

develop their role and their skills for year two and their further development then I think that that, you know, needs to be discussed really." F1

The APPs are considered to be part of the team alongside other healthcare professionals.

"*They've got a team now. Like that's it, being part of the team, and we're hoping to have a Cluster ANP as well. So, there'll be like four of them to cover [Cluster]*." F1

Some practices have considered whether they could offer an APP a zero hours contract to support practice sustainability.

"*The practices have been enquiring about, you know, offering zero hour contract to the APPs. So, they see the benefit of having them because that would be potentially the sustainability, that they employ their own APP practitioner. So, they obviously see the benefit of it*." F2

What would the Clusters change?

Patient perspective

The focus group respondents acknowledged the importance of getting patient feedback following their consultation with an APP. One Cluster had already received positive comments about the APPs.

"*The feedback sheets I think are quite useful because…They're all very positive from the patients*." F1

In the other areas there were plans to collect patient feedback but it wasn't yet being done regularly.

"*We did look at leaving questionnaires in the care homes…so that the care home staff could complete because they usually make the calls, don't they, for visits and stuff. So, we're thinking we'll leave them there so that they can maybe complete. That's not really happening*." F2

"*We've asked the practices to phone five or ten per cent of everybody seen to get feedback. So, they go through the questionnaire but over the phone… it's easier in the clinic because they're there with you, aren't they, at the end or something*." F2

Efficiency and utilisation

Some Clusters reviewed APP utilisation and were planning changes to ensure time was utilised efficiently during the morning.

"*in the morning, you know, before the calls come in they could be sat…because they start at eight o'clock and the calls don't start coming in until sort of 9:00, so they've really got a bit of a waste of time. And now we're just going through things and making sure they've done their notes and stuff from previous visits, but, yeah. So, I think looking at their sort of downtime maybe it's something that we're quite keen to look at and I think that's why we're exploring them doing clinics maybe in the morning so that they could go out and do the home visit lists around the afternoon*." F2

Activity data was said to be important in making decisions about how APP time is utilised in the Cluster.

"*the data's really important, we need to know what the activities and what they've been doing and when it changed from home visits to clinics and why they made that change*."F4

One respondent had plans to undertake evaluation of the project and potentially capture some of the changes that have taken place in their area.

"*that's [evaluation] not completed but we've got all the documentation there that we can use*." F4

There was some discussion around the use of technology to improve efficiency. The potential for the APPs to be provided with equipment such as a portable CRP machine which would allow them to test and treat patients in one visit. This would be particularly beneficial in rural Clusters.

"I think that equipment is something that we should be looking at because we've got not…for the APPs we've got an urgent care practitioner who feels she should have certain equipment to go out and do tests…like the portable CRP, you know, which it's helping them then, you know, if she's got an infection and then you can say, oh, get antibiotics. So, maybe that's something we should be looking at as well as a developmental thing… having one visit rather than saying, yeah, you need to go…or get somebody else, a district nurse, to come out and do it so it's more efficient." F1

All APPs were provided with a laptop and tablet computer which they were encouraged to use.

"*What's been really useful is they've had their laptops to record their information on. EMIS is on the current laptop and then they'll go into that surgery provision and update the records*." F4

In another area, there was some reluctance to use the technology.

"*Ours don't use them [laptops]. They don't like… they don't like them [tablet] either*." F1

"*…he likes his paper*!" F2

The Cluster acknowledged that making use of the technology available might have a small impact in terms of efficiency but that human factors are also important. Going back to practice at the end of the day to enter data provides an opportunity to see colleagues and debrief.

"*if you look at the numbers they're seeing it's obviously not…you know, maybe it would be slightly more efficient but they're obviously getting through their patients, they're seeing quite good numbers. So, we won't be too concerned about that to be honest. And it's a good way of getting them to go back to the practice, touch base, because they have to. It's a good way of combining that discussion as well*." F2

How have the Clusters changed their approach to the APP?

Patient perceptions and a new way of working

Clusters were keen to encourage patients to consult an APP rather than a GP where appropriate. Having seen an APP, patients had confidence in the APP as an appropriate alternative to the GP.

"*Raising the profile with patients that GP isn't always necessary in terms of…you know, people once they've seen the APP it's that confidence then actually, yeah, you know, there're other people who can see us really*." F2

There was some discussion around whether it is appropriate for the APPs to wear paramedic uniform in Primary Care. The decision was left to the Cluster/APP and varied in different areas.

"*In the beginning we discussed about whether they'd wear their greens or whether they'd wear their normal clothes but it was agreed, well in [area], that they're wearing their greens*." F4

"*[APP is in] full uniform in practice, yeah, but that was their own decision. The Cluster was, we don't mind at all… the practices weren't either way, were they? …they hadn't had a strong opinion on it but then, again, if we do get feedback saying, actually we prefer them to be in uniform, maybe we'd address*." F2

A situation was described where an APP wearing uniform inadvertently caused distress in a patient with dementia who mistakenly thought the APP was taking them to hospital.

"*I went out on a visit with your man who was wearing his uniform and it was a dementia care home and the patient looked 'oh, you're not going to take me, you're not going to take me'. So, they thought he was an ambulance going to take her away to hospital. So…and he was like, 'oh no, no,*

I'm just going to…' You know, so there is that sort of thing, perception that people think, 'oh, he's going to take me'." F1

There was agreement that more APPs in Primary Care will mean patients have better awareness of the service and become used to their presence.

"*But they'll get used to things like that if there's more of them*." F3

"*Yes, if they know of them*." F1

Perceptions of other practitioners

Despite being new to Primary Care there was acknowledgment that the APPs are coming to the Clusters as highly experienced professionals.

"*They are highly skilled professionals, aren't they*?" F2

As APPs became embedded in Primary Care, GPs trust and confidence increased. This was reflected in the increasingly complex workload assigned to APPs.

"*I think the GPs get to know the APPs and what they can do as well. So, their confidence in them grows. So…and, you know, I think that's really important for sustainability as well, you know, that they can develop their own even further*." F1

"*They cope really well with the patients that they're seeing. You know, there's no nervousness there at all in terms of giving them quite…you know, quite complex cases as well in some respects*." F2

"*They work autonomously, don't they? [Cluster] have had ones particularly. You can let them go and I think the GPs feel quite confident in leaving them to go and we've got particularly good ones as well.*" F2

In contrast, there was some concern around the perceptions of APPs by ANPs who were said to have a bigger workload on a lower pay band.

"*I think we need to be careful as well because we've also got ANPs out in the community in [Cluster] seeing similar acute patients but they are also seeing more. So, we just need to be mindful, you know, because the workload of the ANP is quite a lot bigger than the APP in practice…she saw 12 in one morning and he saw four in one day. So, that's the difference, isn't it*?" F1

"*We just need to be mindful as well because you've got other professionals working on a lower band seeing similar patients but seeing more. So, we need to address that. You know, I'm sorry, that's the elephant in the room because they see this, don't they, they're paid less but actually they're seeing and doing more. We just need to be mindful. We don't want to lose people*." F2

The issue was also discussed in relation to APPs being employed by WAST and working on a paramedic pay scale but was still seen as causing some tension.

"*I know it's out of the control but we just need to be aware that it can cause a bit of tension*." F2

There was understanding from others, that despite being highly qualified APPs, they are still learning in Primary Care. There needs to be some acceptance that the APPs are still learning and in need of support which will slow them down to some extent.

"*I know but also on that you've got to understand that they're still training as well*." F4

"*But they need that type of support, don't they? Where an ANP's used to, you know, going out and doing*." F4

There was a perception that the APP may be not be seeing patients fast enough.

"*But I have one with patients that are taking…say a patient for half an hour, taking half an hour, you know, so to three quarters or even an hour… so, either way if he was given eight patients he could only see six or he'd be there until…and he had to finish early to take his car somewhere, things like that you see*?" F3

On the contrary, a situation was described which emphasised the importance of giving patients the time they need to address their holistic needs.

"*In [Cluster] they would go out to see the patients and …it wasn't rushed…they were taking time to get to know the patient and look at the history, what was going on as well. So, it wasn't just dealing with the symptoms there and then …because sometimes it's not very … there was one lady …they thought she had a bit…you know, dementia and…there were other things going on. And so I think having a bit more time isn't necessarily a bad thing*." F1

Future APP service delivery

Looking ahead, it was suggested that the APPs could support preventative health services.

"*Well because they've got the knowledge and skills of what a normal paramedic would, you know, deliver they can…you know, what they're learning they can bring back to…you know, preventative work*." F4

Another option suggested was to utilise the APPs paramedic skills to set up a triage facility in a community hospital where they could admit into observation beds short-term and prevent admission to acute hospitals.

"*What was interesting was the idea of…so any ambulances coming from the [areas] passing [community hospital] to go to [acute DGH] we'd want them to stop … like a further triage if you like. So, we were quite keen to be doing that but that hasn't yet happened but that was the idea. So, anything on the way to [DGH] we're going to stop there for triage…that's the only place to go, and they have got observation beds in [community hospital] which we were unaware of*." F2

It was viewed as a creative option and highlighted how a triage stop could support local and national NHS policies to provide safe care, closer to home and avoid unnecessary admissions.

"*If the APPs feel that they need a second opinion or just that 24 hour ticking along we'll keep them in, we'll keep an eye on them. So, we need to try and do something to stop admissions in [DGH]. We have to try and be creative in how we use them really because of the rurality*." F2

"It's all about care closer to home, so keeping those patients away from that front door." F4

"*Sometimes you don't want to admit somebody…just to observe them in an acute hospital because that's taking up a bed for somebody who might need it more urgently*." F1

One APPs put forward suggestions of how they could undertake additional work to support the Cluster.

"*he actually was saying…because they finish at 6:00 but when they're with WAST it's 12 hours, isn't it? So, they were like, 'oh, could we not extend the work until 8:00 and support out of hours?' That was the initial discussion. And then they thought, actually the demand is on weekend. So, that's where that came from. So, it came from [the APP], fair play. So, that's always a good sign*." F2

Discussion

In all areas represented in the focus group, the model was being reviewed and adjusted as the needs of the APPs and practices changed. The home visiting service was the preferred model, particularly at the start. It was said to have had a positive impact, saving GP time and enabling them to focus their time on surgery clinics and patients with more complex health needs.

Later in the focus group there was some discussion as to whether home visiting limits the exposure to a smaller range of presenting complaints, and whether an ideal model would incorporate surgery clinics too. The rural areas represented in the focus group found that the APPs had been well received by patients. The APPs had worked flexibly to meet the needs of the service and population for example undertaking phlebotomy training. The APPs ability to converse with patients in Welsh was also highlighted.

In terms of sustainability, the themes centred on good working relationships (at all levels) which contributed to successful implementation of the project. External support provided by PHW and WAST was praised during the focus group. If the APP project was rolled out on a wider scale it is unlikely such a high level of support would be provided. Therefore an alternative support system would need to be considered such as utilising resources from a more experienced Cluster.

Looking ahead, the Clusters expressed an interest in expanding the model and having more APPs or more APP time working in practices. Furthermore, there was discussion around developing the APPs professionally indicating that the Clusters recognise their value and view them as an investment. There was some concern that APPs were overly reliant on GP supervision, described by one Cluster representative as a “hindrance”. This may need to be reviewed with the Cluster and APPs concerned.

Focusing on future changes, the importance of collecting patient feedback was recognised. Reeves et al., (2013) found that where patient feedback was collated and improvements acted upon, patient satisfaction (collected via nursing scores) increased. Some of the other changes suggested were more practical for example reviewing services and technology to ensure that APP time was being used efficiently.

When asked about how the Cluster changed their approach to the APP, responses related to perceptions of patients of patients and the importance of raising their profile in Primary Care. The pros and cons of wearing of uniform was debated by the Clusters. In their research of rotational paramedics, Turner & Williams (2019) reported mixed views, but as a rule those not responding to 999 calls did not wear uniform to prevent confusion.

During the focus group, the APPs were described as “saving GP time” or “extra pair of hands” as a benefit realised from having APPs working in the Cluster. Further work could be undertaken with GPs to understand what having more time means for them and their patients.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101

Chapter 3. Minnesota Satisfaction Questionnaire

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), each 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). A score is assigned to the individual's response to each item.

Items are entered on to a scoring form according to the instructions provided in the MSQ Manual (where each item is aligned to one of the 20 scales). The Pacesetter project team selected the 100 item 1977 long version of the questionnaire to use with the APPs. 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 wellbeing and feeling supported. Alternative measures of workplace satisfaction were reviewed such as the Job Descriptive Index (Kinicki et al 2002) but as a validated instrument, the MSQ assessed the most comprehensive range of scales. A brief review of the literature determined that the MSQ is still used extensively to assess workplace satisfaction, particularly amongst healthcare workers.

Methods

The APPs were instructed to base their responses on all three aspects of their Pacesetter rotation. The MSQ Manual recommends that respondents answer items rapidly and do not review previous answers. Each of the nine APPs completed a paper copy of the MSQ, as a group they took between 10 and 20 minutes to answer all 100 questions. All APPs answered each of the 100 items.

The MSQ fulfilled the 'Am I valued?' APP element of the Pacesetter evaluation framework. The methods of data collection and reporting were approved by BCUHB Information Governance, and complied with principles of a service evaluation throughout.

Results

Individual scores

The highest score from one APP was 417, and the lowest 294 (total possible 500 based on 20 scales and maximum 25 per scale). The mean average was 360.78. Two APPs each scored 386. The total for all APPs can be found in Figure 1 below.

If scored are converted to percentages, a score of 41-60% would represent "neither", 61-80% would be classified as "satisfied" and over 80% "very satisfied". In this case, even the lowest ranked APP would have had a score equal to 58%, (classified as "neither") and meaning no APPs were dissatisfied. The scores for the remaining APPs would mean they were classified as either "satisfied" (seven APPs) or "very satisfied" (one APP).

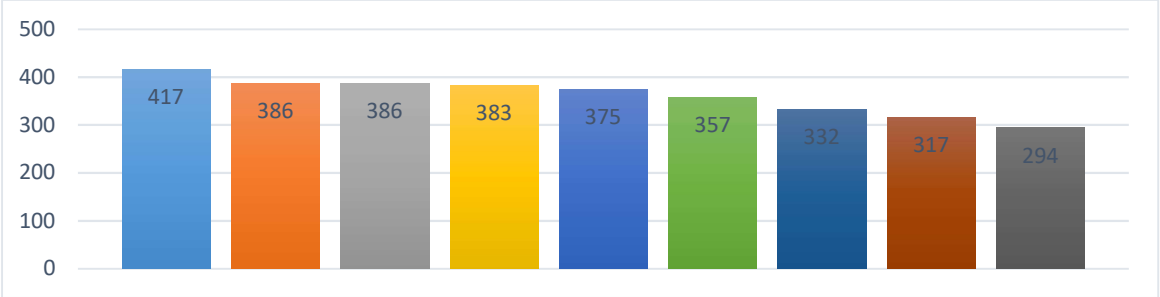


Figure 1. Total raw score for each APP

MSQ Scale

Below is a list of the 20 MSQ scales, together with the highest scoring item from each.

As a group, the individual item (or question) APPs scored greatest based on total raw score was 'the chance to help people'. They also scored highly for 'knowledge of supervisors', 'friendliness of co-workers', 'moral value of the job', 'working conditions' and 'the chance to work on their own'. These items were close to the maximum score of 45, indicating a high level of satisfaction. They are also qualities associated with working in a medical profession.

The individual items which scored lowest were 'the way promotions are given out' (score 24), 'The way they usually tell me when I do my job well', 'the praise I get for doing a good job' and 'The chance to tell others what to do - all 26. The potential total score was 45 based on 9 APPs and a maximum score of 5 per question. Even the lowest scoring item of 24 is equivalent to over 50% indicating that these items scored neutrally (based on the scoring system) or a low level of satisfaction, rather than dissatisfaction.

Scale	Highest scoring item (Maximum 45 - based on 9 APPs with potential score of 5)
Social Service	the chance to help people (41)
Supervision (Technical)	The technical "know-how" of my supervisor (40)
Co-workers	The friendliness of my co-workers (40)
Working Conditions	The working conditions (heating, lighting, ventilation, etc.) on this job. (39)
Moral Value	Being able to do the job without feeling it is morally wrong (39)
Independence	The chance to work by myself (38)
Creativity	The chance to try something different (37)
Security	The way my job provides for steady employment (37)
Achievement	Being able to do something worthwhile & The feeling of accomplishment I get from the job (37)
Ability Utilisation	The chance to do the kind of work that I do best & The chance to do work that is well suited to my abilities (35)
Responsibility	The responsibility of my job (35)
Activity	Being able to do something much of the time & Being able to keep busy all the time (35)
Variety	The variety in my work (35)
Supervision (human relations)	The way my supervisor and I understand each other & The way my boss backs up his/her employees (with top management) (33)
Compensation	The chance to make as much money as my friends (33)
Social Status	The chance to have a definite place in the community (31)
Company Policies & Procedures	The way employees are informed about company policies & The way company policies are put into practice (31)
Authority	The chance to tell other workers how to do things (30)
Advancement	My chances for advancement (29)
Recognition	The way I am noticed when I do a good job & The recognition I get for the work I do (28)

Raw score

Figure 2 displays the total raw score from all APPs for each of the 20 scales. The highest scoring scales based on a maximum total of 225 (9 respondents and max score of 25 per scale) were Social Service (194), Co-workers (190) and Working conditions (178). This may represent satisfaction with the social

and human factors and the job or characteristics of the work. Similar scales such as moral value were also scored well for satisfaction.

In contrast, the lowest scoring scales were Recognition (135), Advancement (136) and Authority (139). These appear to represent lower levels of satisfaction with aspects of role beyond their control or relating to managerial decisions.

Using the conversion to percentages outlined above, a score over 60% would fall in the “satisfied” range. By this measure, all scales would be rated as satisfied except Co-Workers and Social Service which would be classified as “very satisfied”.

The general satisfaction score per scale can be found in Figure 3 and is placed alongside Figure 2 for comparison. This method of scoring is discussed in more detail below.

Figure 2. Total raw score for each of the 20 MSQ scales

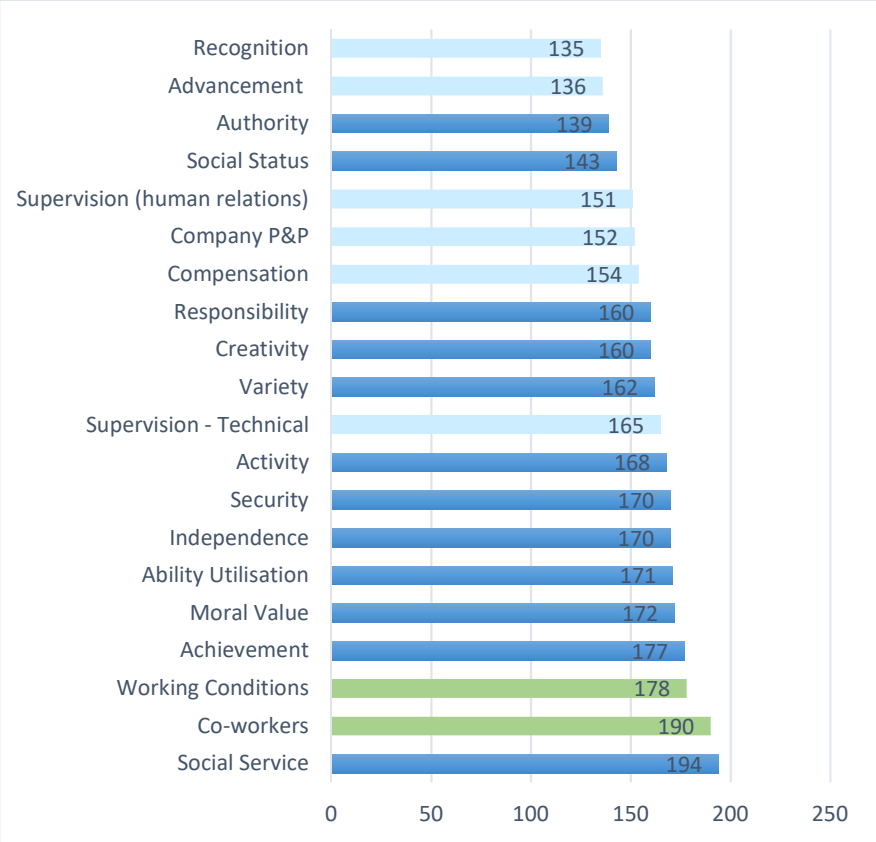
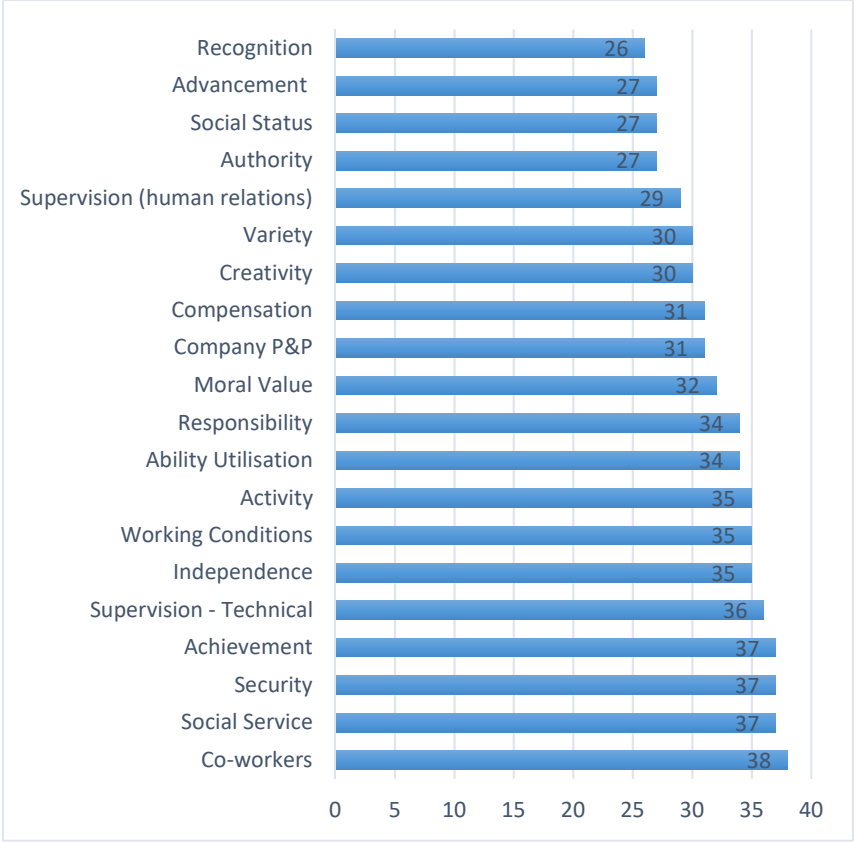


Figure 3. General satisfaction score for each scale



General Satisfaction scale

A general satisfaction scale was calculated by scoring 20 specific questions (1 from each scale). The maximum potential score was 45 based on nine APPs and potential highest score of 5. Figure 3 displays the total for all APPs.

The lowest four ranking scales were the same as those which ranked last based on total raw score (Recognition, Advancement, Social Status and Authority). The highest scoring scales for general satisfaction included co-workers and Social Service (the same as for raw score), as well as Security which was joint third with Achievement.

The scale for general satisfaction is placed alongside the overall total raw score for comparison. Most scales ranked the same or within a couple of places. Some exceptions were Supervision-technical which increased from 10th as a raw score to 5th in general satisfaction. Security and Company Policies & Procedures were also placed noticeably higher based on general satisfaction. In contrast, some scales decreased their ranking for example Moral value which moved from 5th as a raw score to 11th in general satisfaction, also Variety and Working Conditions.

The highest General Satisfaction score from one APP was 84 and the lowest 59 based on a potential total of 100 (maximum score 100 based on potential score of five for 20 items). They were the same APPs who scored highest and lowest based on total raw score but the remaining APPs ranked differently based on general satisfaction.

The general satisfaction score was based on one question from each of the twenty scales and may not be representative of the scale overall.

Mean scores

The mean score for each scale ranged from 14.9 to 21.6, and the mean average across all scales was 18.0. The potential maximum would be 25 and the minimum 5. The top and bottom three scales for the mean score were the same as those based on raw score. The remaining rankings were slightly different, as seen in Figure 2.

When converted to a percentage, scores which exceed 60% are assumed to represent satisfaction with the measure. Based on mean scores, 15 and above would be equal to 60%, therefore the scales of Advancement and Recognition (59.6%) would just fall within the “neither” satisfied range (41-60%). The scales between Moral Value and Authority would fall in the “satisfied” range and Co-Workers, Social Service and Working Conditions would all be classified as “very satisfied”.

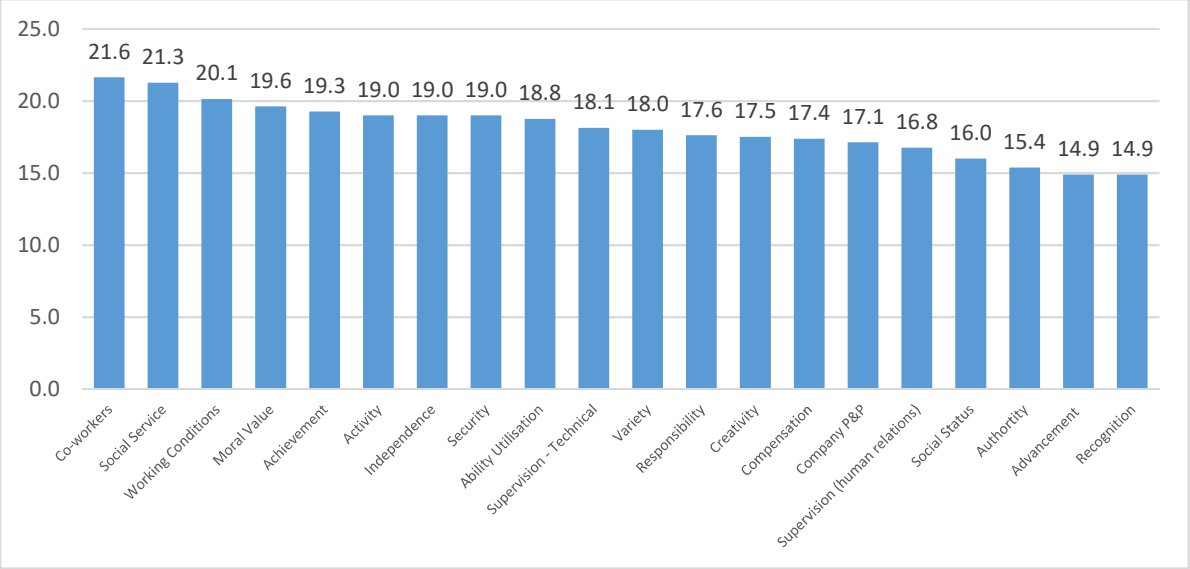


Figure 4. Mean score for each scale

Intrinsic and Extrinsic scales

A short version MSQ comprising 20 items was also developed by the University of Minnesota and included the items which correlated highest to each of the 20 scales. Although the intrinsic and extrinsic factors were not intended to be generalised to the long version of the MSQ, the three short MSQ scales were compared with the APP mean scores.

On the short MSQ, each item was 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. There was an unequal number of items on each of the scales so the mean average APP score for each of the three scales is listed below.

Satisfaction scale	**Mean APP raw score (out of 45 potential maximum)**
General (2 items)	36.5
Intrinsic (12 items)	32.9
Extrinsic (6 items)	30

It was noted that five of the extrinsic/general items scored in the bottom seven based on raw score (Compensation, Company P&P, Supervision-human relations, Advancement and Recognition). In contrast five of the top seven scoring scales for raw score were classified as intrinsic/general (Social Service, Achievement, Moral Value, Activity, Independence). On Figure 2, the extrinsic items have been coded light blue, and intrinsic navy blue. The remaining two items coded green were general satisfaction.

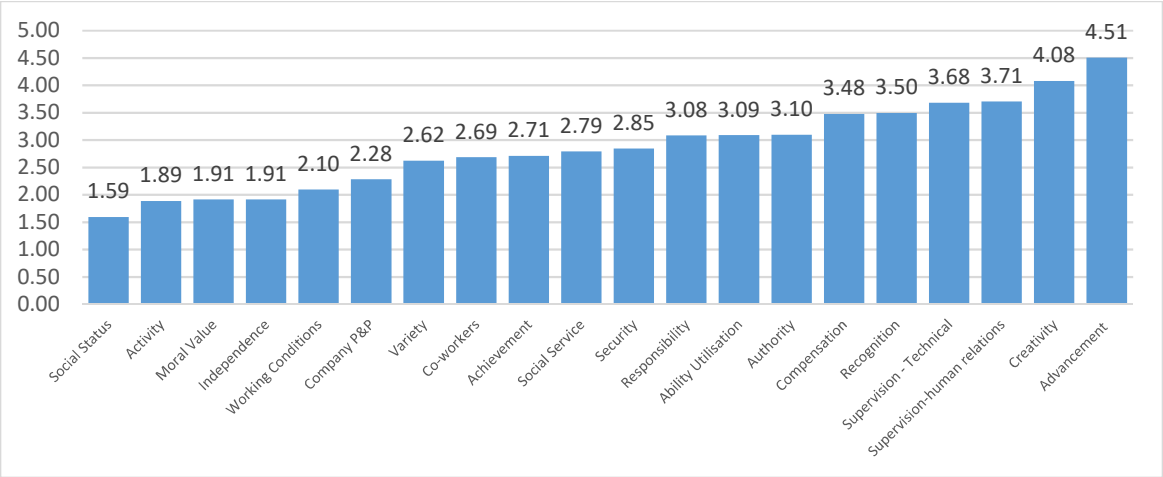
The raw scores were higher for intrinsic factors relating to the job and work indicating the APPs view the job as worthwhile and value the chance to help people. Some of the lower scoring extrinsic items are inherent to working in the NHS such as compensation where APPs are on a professional pay scale linked to experience and qualifications. Other lower scoring items may be specific to aspects of their rotation. For example, Company Policies and Procedures ranked 15th based on raw score. In their 'Am

I learning?' reflection some APPs found variation between different practices a challenge as they became established in Primary Care.

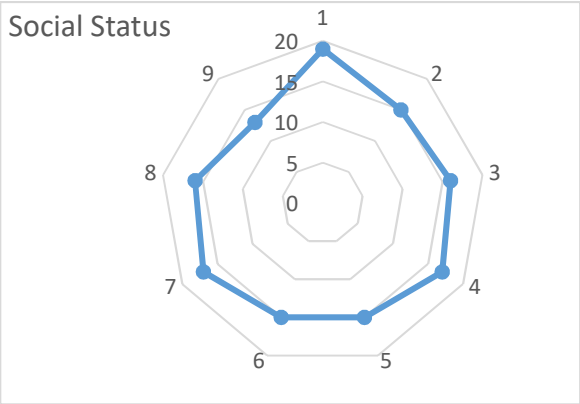
Standard Deviation

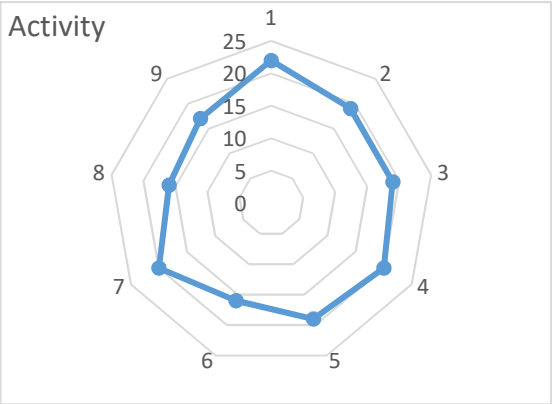
Standard deviation is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A low standard deviation would indicate that APP scores tend to be close to the mean, while a high standard deviation indicates that the values are spread out over a wider range. The value for each scale can be found below.

Figure 5. The standard Deviation between APP scores for each of the 20 scales.



The lowest scoring scales were Social Status (SD=1.59) and Activity (SD=1.89). These scales are represented below in a radar graph of APP scores. The total raw score for Social Status was between 13 and 19 for all APPs, and between 16 and 22 for Activity. Other scales which had low standard deviation were Moral Value, Independence (SD=1.91 for each) and Working Conditions (SD=2.10). The low standard deviation indicates low variation between the APPs and a fairly consistent level of satisfaction.

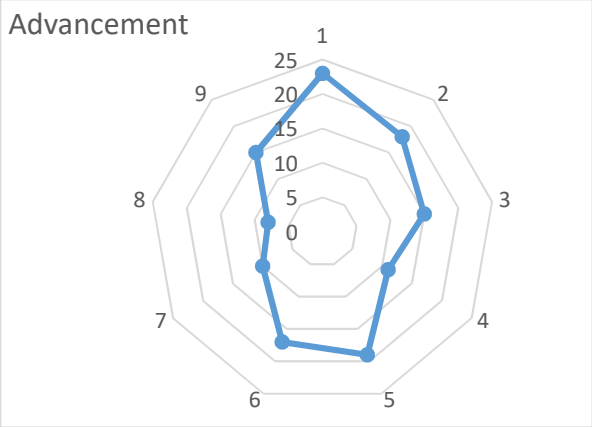


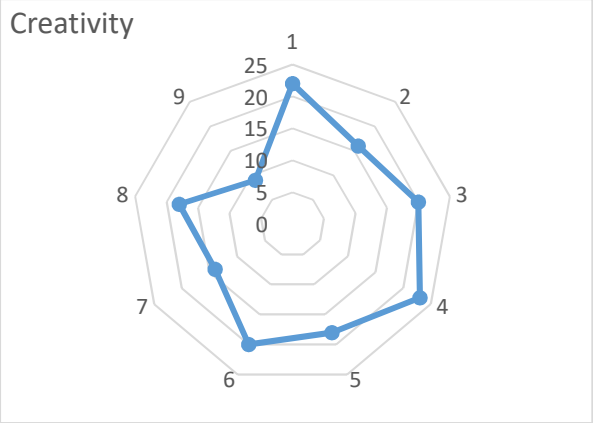


The scales with the highest standard deviation were Advancement (SD=4.51) and Creativity (SD=4.08) and are represented in the radar graphs below displaying individual APP scores for these scales. Advancement ranked second lowest based on raw score in Figure 2. The high standard deviation was due to individual APP scores ranging from 8 to 23 indicating wide variation in responses. Similarly, the individual scores for creativity ranged from 9 to 23 and ranked 12th based on raw score. Other scales

with a high standard deviation were Supervision-human relations, (SD=3.71), Supervision-technical (SD=3.68) and Recognition (SD=3.50).

Linking back to the intrinsic and extrinsic factors, four of the five scales with a high standard deviation are considered extrinsic (related to external factors) and generally score lower in the ranking of raw score scales in Figure 2. Such variation between the APPs may be accounted for by differing levels of satisfaction specific to aspects of the rotation or Primary Care placements for example to account for supervision and recognition. In addition, there have been opportunities available to the APPs, including the independent prescribing qualification which may affect how some APPs view their opportunity for advancement.





Distribution

A box and whisker graph displays distribution of data into quartiles, and highlights the mean and outliers and are particularly useful when there are a number of datasets to compare. The box lines extending vertically (whiskers) indicate the variability outside the upper and lower quartiles, and the points outside the lines (or whiskers) are considered to be outliers. The 'x' within the box represents the mean and the horizontal line represents the median. The box and whisker are based on a maximum score of 25 per APP (maximum score of 5 per question for 5 questions per scale). The height of the box on the Y axis is also an indicator of its position based on raw score total for example Social Service and Co-Workers, achieved the highest total raw score are placed higher on Figure 6 below.

Visually, the scales with a low standard deviation such as Social Status, have smaller boxes, centred more closely to the mean indicating less variation in responses. In contrast, the items with a greater standard deviation like Advancement and Creativity are represented by the larger boxes with longer whiskers due to wider dispersal of scores between APPs.

Variety, Ability Utilisation, Working Conditions and Responsibility all had scores outside the whisker considered to be 'outliers'. For the purpose of the MSQ, it indicates that one APP had scored vastly different to the rest of the group on a particular scale for example on the Variety scale, the outlier is an APP who scored 11, compared to the remaining group who scored between 17 and 20. With one exception the outliers for the MSQ were all scales with one APP scoring significantly lower than the rest of the group.

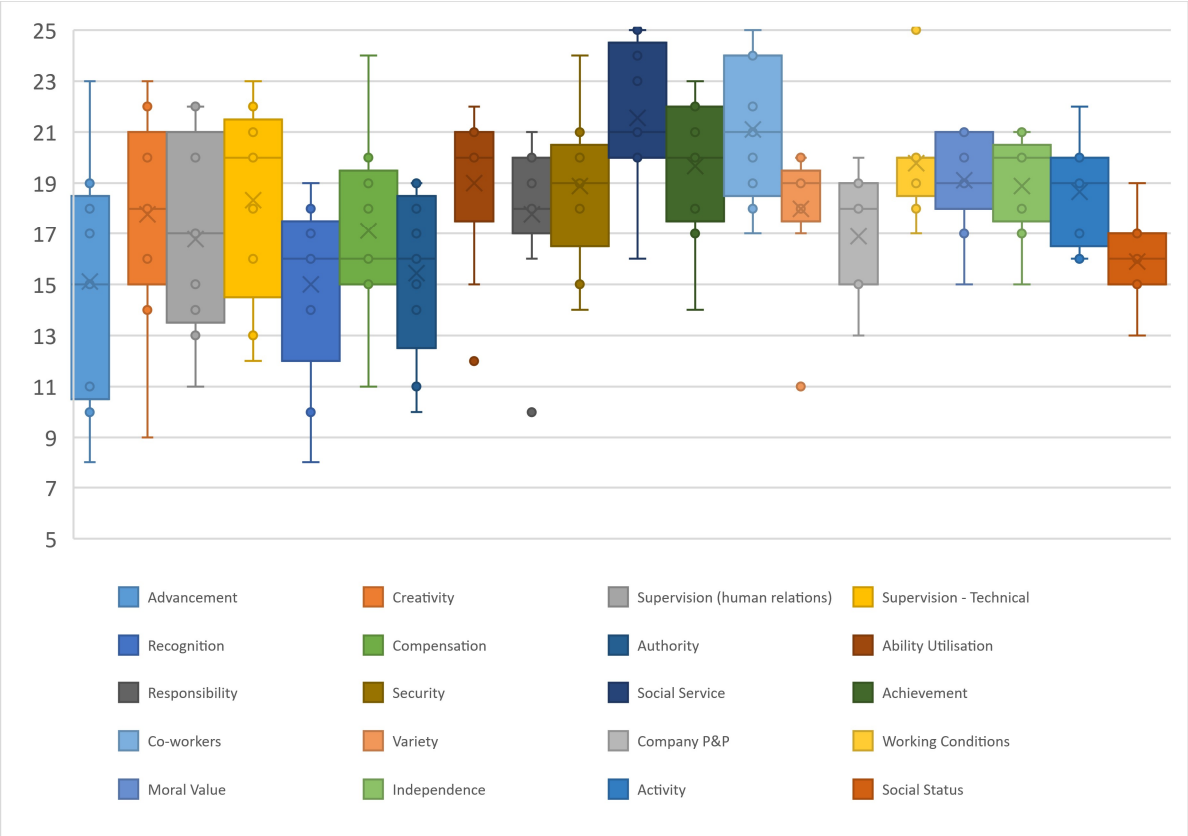


Figure 6. Box and Whisker chart for each scale

Discussion

The MSQ was a simple to tool used to assess APP satisfaction with the Pacesetter rotation. The results showed that in general, there were no scales rated as "dissatisfied" based on the principle that percentages of 41-60% represented a neutral "neither" opinion, 61-80% "satisfied" and 81% and above "very satisfied". The scales which scored highest based on raw score were Social Service, Co-workers and Working conditions. The former two would fall into the "very satisfied" category. The lowest three scales were Recognition, Advancement and Authority. As all three scored over 135 based on total raw score they would all fall into the "neither" or "satisfied" category based on the MSQ scoring system indicating overall satisfaction. The individual APP scores were calculated and ranged from 294-417. All but the lowest scoring APP are considered to be "satisfied" or "very satisfied" based on their scores.

The intrinsic and extrinsic scale intended for use with the short MSQ were applied to APP scores. The intrinsic items tended to be the scales which scored higher based on raw score indicating satisfaction with the work itself. This included items like "the chance to help people" and the moral value of the job. However the extrinsic scales (linked to external or environmental factors) ranked lowest in satisfaction for example recognition and opportunities for advancement. It is possible that extrinsic items score lower amongst employees generally and the findings are not specific to this APPs. In their studies of the MSQ and workplace satisfaction, Pennington & Riley (1991) reported that Advancement, Compensation and Company Policies were also areas of lowest satisfaction.

Calculating the standard deviation helped to identify variation in scores between the APPs. The items with a low standard deviation (lower range of scores) were placed throughout the total raw score

rankings in Figure 2 and there was no pattern relating to their score. In contrast, the items with a high standard deviation tended to be lower scoring scales. For these scales, there was wide dispersal of scores between the APPs but a lower overall score. The high standard deviation for the Supervision and Recognition scales may be accounted for by differences on the Primary Care rotation between Clusters. All APPs receive a similar experience in the CCC and as a solo responding APP but are supervised in their own Cluster on Primary Care rotation and this variance may be explained by APP perception of the supervision and recognition from GPs and practice staff.

In terms of using the MSQ tool to assess the 'Am I Valued' element of the Evaluation framework, the findings indicate that overall, the APPs were generally satisfied which would correlate with higher wellbeing from a work perspective. Dana and Griffin (1999) undertook a review of health and wellbeing in the workplace describe wellbeing as a broad construct comprising satisfaction. In their study, Maben et al (2012) found that high staff satisfaction positively impacted on patient care and that patients had a better experience when cared for by staff reporting satisfaction with their job.

The scales on the MSQ most closely related to feeling supported such as Supervision (technical and human relations), Company Policies & Procedures tended to be lower scoring but not classified as "dissatisfied". Variation between APPs for some of these responses these items could be investigated further using qualitative methods the findings would help develop strategies to improve satisfaction.

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

Chapter 4. APP Reflection: 'Am I learning?'

Background

All APPs were asked to write a reflection eight months into their rotation in March 2020, simply asking them about learning. The style, length and content was left to their discretion.

Methods

The reflections intended to fulfil the 'am I learning?' APP element of the evaluation framework. The process was agreed by BCUHB Information Governance and this method of data collection and reporting was undertaken within the remit of a service evaluation.

The reflections were reviewed and thematic analysis (Braun & Clarke, 2006) was used to identify nine key themes: Initial expectations and induction, adapting to Primary Care, Supervision, Personal and professional development, Education framework, Risk, Evolution of the APP model, Multidisciplinary working and Impact on WAST. Each is outlined in more detail below.

Seven of the APPs returned a reflection.

Results

Initial expectations and induction

Many of the APPs wrote about initial expectations and their experience of the induction with mixed feelings and an element of hesitancy. As the first group of APPs rotating into Primary Care on the Pacesetter project, their experiences will help develop the model for future rotational APPs, starting with "unknown unknowns".

"*I remember mentioning unknown unknowns-those areas of Primary Care that I was so unaware of that I couldn't identify them as gaps in my experience and knowledge*." APP C1

"My initial feelings when we began working in a Primary Care environment was that I became extremely conscious that I had a lot to learn." APP D2

One APP described their frustrations at some of the early expectations of the APPs from those delivering the formal education. The early issues were soon resolved and their later description of the education framework was hugely complimentary. This individual also referred to the APPs on the Pacesetter as a "team".

"*I felt frustrated initial as the framework found its feet, it seemed to take a while for each of the NEWMEDED team to establish our learning level and understand our current skill set. There also seemed to be a reliance on us as a* ***team*** *knowing our areas of weakness and what topics we wanted to develop…This has now improved*." APP D1

Some of the APPs report a mixed learning experience through the induction period but acknowledged it was part of the experience and variable nature of Primary Care.

"*My time in Cluster D started with an induction and exploration of each of the GP surgeries and the component parts of the …MDT. I had mixed learning experience through this time. I understood this process was as much about each part of the Cluster learning about us and the role of the APP*." APP D1

The APPs in all five Cluster areas work to a different model, and this was the case for induction too. Looking at the data for Cluster E will useful to determine the long term impact that a slower induction has on long term APP activity.

*"… it became apparent some of my colleagues had hit the ground running seeing patients, initially my thoughts were envious, however, on reflection this was probably for the better. Conversely, during discussion with my peers, it became apparent that they were envious of the induction I had to complete…within the first 8 weeks I had no patient facing time, other than observing some Primary Care consultations…*I *can now appreciate the induction package and now on reflection can see how important it was and how much I had benefited from it and its resulting influence on the day-to-day work."* APP E2

Adapting to Primary Care Practice

Being new to Primary Care, several of the APPs outlined how they adapted their clinical practice in this new environment. One APP wrote about their anxiety towards home visits and surgery clinics despite being an experienced practitioner. As part of the reflection they attributed the feelings to perceived lack of confidence.

"*At the start of the project the thought seeing patients in clinics was intimidating. I knew this would challenge me and having completing previous shadowing in this environment I was nervous that my Primary Care clinical knowledge would be found lacking…. I found the anticipation of the clinic much worse than the progress. Once I had seen the first patient I quickly settled into the progress. …As part of my personal progression I feel this demonstrates vast learning and development of skills; even if this was just overcoming a self-perceived lack of confidence*." APP D1

"*I recall being nervous to attend home visit patients, the process felt strangely alien despite being closely aligned to my operational APP role. Patients do not anticipate your arrival in the same way as when they have contacted 999. I found initially I had to give more of an explanation to why I am visiting and not the GP. These feelings soon subsided and I adapted my consultation style*." APP D1

Another change was around the type of patients presenting in Primary Care and the responsibility of the APP to meet their holistic care needs.

"The typical presentation of patients was perhaps a lower acuity than I was used to in an ambulance setting but I was very acutely aware of the responsibility that was the burden of GPs to not only treat the various illnesses that they were presented with but as the guardian of all of their patients' health and pastoral needs with an emphasis on not missing anything significant." APP D2

Adapting to working in Primary Care presented positive learning opportunities such as clinical management of patients they may not otherwise care for and the opportunity to review cases.

"Managing end of life care patients on a journey was also a new experience." APP D2

"*I am now familiar with …the opportunity to review patients at a later time, so where the 10-minute appointments are brief, often the medical and medication history is available to study and the problem is not necessarily solved in that first consultation*." APP C1

Other APPs focused on practical aspects of Primary Care which were different to their usual workload. The time constraints and appointment process meant APPs had to adapt their clinical practice to meet the needs of the service.

"As an APP I was to be afforded 30 min appointments, which as time has gone on and learning has taken place I have been able to slash 10 minutes off, and on average, now I can consult within 20 minutes, which means I can fit more patients in within the day and become more effective." APP E2

Some APPs initially found new systems and processes a challenge, particularly as there was variation between practices which the APPs had to adapt to as part of their learning.

"Working within a Primary Care Cluster has been somewhat of a steep learning curve. There were many aspects to this area of work to which the practitioner was unfamiliar. It was fortunate that the (medical) lead for the Primary Care Cluster had developed an extremely comprehensive training programme. This introduced the practitioner to not only the clinical aspects of Primary Care, but to also the non-clinical facets, such as Primary Care administration." APP E1

"IT systems used were completely unfamiliar…some practices used different IT system…Other administrative tasks that would otherwise have been taken for granted by the practice staff, such as adhering to the correct procedures regarding the collection and subsequent processing of phlebotomy and urine samples, also took time to become acquainted." APP E1

"the Cluster has multiple surgeries mostly using the different IT system; this required some considerable familiarisation, especially on the administrational aspects surrounding the clinical consultation such as ordering tests such as bloods, imaging and making referral." APP E2

"Paramedics are autonomous practitioners but work according to guidelines and ambulance service policy, care is, broadly speaking, consistent. In contrast, GP practice can vary between different practices, different GP's and, as they are human, the same GP on different occasions." APP C1

Supervision

Several of the APPs discussed supervision and GP mentorship, and all reflected how it had positively impacted on their clinical practice.

*"the mentorship provided by the GP's to be **informative, constructive and effective**. Hot case reviews have proven to be a valuable training method for learning and has improved my diagnostic performance."* APP B1

*"I have been lucky to had **dynamic support** from our clinical supervisor who recognised the need to support and develop us as practitioners above the need of service delivery."* APP D1

One APP recalled how they found discussions with the GP around dealing with serious incidents beneficial.

"It has also been extremely useful to hear evidence about how some of the GPs in the Cluster have themselves dealt with serious adverse incidents." APP E1

Working collaboratively with their supervisor in Cluster D, gave the APP an opportunity to feedback on the experience and improve their learning.

*"I feel personally that I have had **fantastic support** from our nominated GP supervisor, she has sought our feedback on how the scheme [can] be changed to better improve our learning experience and we have recently begun to run supported clinics."* APP D2

During a practice visit with the Pacesetter team, one of the GP's involved with the project anecdotally referred to what is known as 'parable learning' in medicine where informal discussions often act as an incidental learning opportunities. This was documented by one of the APPs.

*"…almost every patient contact resulted in dialogue with the GP, leading to **some form of learning**."* APP A1

Personal and professional development

When reflecting on their learning, APPs discussed the impact of new skills outside the usual paramedic remit such as critical thinking.

"As a practitioner I feel my critical thinking has changed significantly and has moved away from the paramedic way of training/ thinking. This pacesetter project has been an invaluable learning opportunity in terms of my critical thinking." APP E2

Another APP described how personal and professional development has led to a "shift in practice" that has enabled them to develop as an autonomous practitioner.

"…the project is helping me develop clinical proficiency and develop autonomy and self-esteem as a professional. A shift in my practice has occurred that has strengthened independent decision making achieving more autonomous decision-making status… improved my attitude and motivation toward learning and helped consolidate clinical understanding and practice standards, facilitating personal and professional development." APP B1

In addition to improved skills acquired through the learning process, APPs are now developing as a result of seeing a wider range of patients and looking to potential areas for improvement in future.

"I have experienced a journey of growth through the process of home visiting and on to surgery based clinics." APP D1

"The pacesetter project has challenged my current thinking and helped identify areas of which I feel I need to further develop." APP B1

One APP acknowledged the challenge of learning at work alongside studying and trying to maintain a work-life balance.

"Time management has been the biggest challenge so far, consolidating new learning, undertaking new learning as a trainee prescriber and trying to balance work and home commitments has been more challenging than I would have anticipated prior to the start of this scheme." APP D2

Clinical Skills

Some APPs discussed the influence that the Pacesetter project had to the practical application of their learning on clinical skills.

"The project has been invaluable for learning clinical skills and applying these skills in practice." APP B1

"This learning has been incorporated into practise, and further discussions have been held with other GPs within the Clusters. Decisions [the APP] may have deemed unwise in previous encounters have now been dealt with in another way, to obvious patient satisfaction." APP E1

They reflected on how improved clinical skills positively impact on the patient experience for example, a patient centred approach and identifying what matters.

"Consultation and diagnostics skills have been honed and improved, along with adopting a patient centred approach. I have discovered which further tests need requesting for specific symptoms and in interpreting their results." APP A1

"I believe that my clinical examination skills have improved, my communication skills have improved, I am able to better identify 'What Matters Most' with patients." APP D2

One APP described their experience developing patient management plans independently without direct support.

"The biggest change to my practice was sometimes leaving the patients house without a management plan to discuss the case with duty doctor… giving myself this time to think over all the components I have developed a management plan before contacting the GP. I continue to progress this area of competency and can now manage common presenting complaints with indirect prescribing support." APP D1

Those undertaking their independent prescribing qualification also perceived benefits to their current practice as an APP.

"I now have a far greater understanding of pharmacodynamics and pharmacokinetics, applying these theories to everyday practice." APP A1

Education framework

As with supervision, the APPs who discussed the education framework wrote positively about their experience and how their formal learning is applied in clinical practice.

*"The role of feedback in clinical education has been **invaluable** to clinical learning."* APP B1

"They have delivered excellent and informative sessions that are relevant to practice in Primary Care and I feel that I have been incredibly well supported by all of the doctors involved." APP D2

Two of the APPs singled out decision making as a skill which has developed as a result of the education programme.

*"The GP-led education days have been hugely instrumental in developing the practitioner's **decision making**."* APP E1

*"The education days led by the GP educators and the supervision within practice has been a key fact in **developing my key decision-making**."* APP E2

The APP who had initial frustrations about the education programme later wrote about how the sessions provide more than formal learning. It was also an informal social support system where APPs could share learning from their time in Primary Care.

*"…its benefits are greater than solely the transfer of skills or knowledge. The social support that comes from meeting as a group and sharing our individual learning experiences good / bad is invaluable…a balance has been reached in sessions allowing time for formal teaching topics and sharing of personal experience from our Cluster time. **I have benefited hugely from attending the education days.** As I increase the range of patients I have contact with in clinics the more I am able to **apply the knowledge** covered in the education days."* APP D1

Risk

The APPs had no direction on the content of their reflection however the concept of risk was raised a number of times and was said to have influenced their practice since starting the Primary Care rotation.

"both [my] perception and management of risk has changed which has had a knock on effect with my practice…Watchful Waiting is a term that I did not believe would ever apply to WAST clinicians!" APP D2

The education days introduced the concept of risk management and positive risk taking, where risk is backed by evidence based practice and in the patient's best interest.

"The main concept I have been introduced to is that it is not what you are faced with; it is how you are going to deal with it in terms of risk, without being negligent." APP E2

"These [NEWMEDED] training sessions have introduced the concept of positive risk-taking, and the acceptance that if clinical, evidence-based and patient-informed decisions are made in the best interests of the patients, it will follow that on occasion adverse incidents will occur despite the best intent to the contrary. That is not to say the practitioner should not attempt to minimise risk, but it should be accepted that risk is an inherent part of medicine, and eventually the practitioner will become more accustomed and comfortable with such risk." APP E1

When developing patient management plans, APPs acknowledged that the variation between their own plan and that of the GP was down to experience around balancing risk.

"I try to decide on my management plan for a patient and then compare it to that of the GP with whom I discuss the case. The variation is largely based on balancing risks – is the patient well enough to stay at home? Do they require additional treatment or medication? Do they need referral to specialities and how soon?" APP C1

For one APP, there was a realisation that management of risk was now their responsibility as an autonomous practitioner in Primary Care, rather than the GP.

"the greatest amount of learning has taken place when focusing on the clinical assessment of patients and the change in risk perception. As an experienced prehospital paramedic, the [APP] was comfortable in those situations whereby a patient may have been deemed suitable for an alternative disposition rather than the emergency department e.g. their GP… since undertaking consultations within the Cluster, the [APP] has, in effect, been taking on the role of the healthcare professional they would have referred the original patient to. i.e. the GP." APP E1

For some APPs, risk is still a source of anxiety but there was an acceptance that it is part of the role and seeking help is part of the learning experience.

"At times, I still worry about risk in case I have missed something, yet this is something I am becoming more comfortable with. What, I have also learned is that you cannot know everything as a generalist practitioner and it is ok to seek/ clarify things, even experienced GP's do." APP E2

One APP questioned whether the concept of risk should always be "uncomfortable" even for experienced practitioners.

"the greatest component of learning has been living with risk. For most of the GPs that the practitioner has discussed this with, it is remains an element of their role that does still cause

occasional anxieties; however, the patient's presentation has to be considered holistically, and a careful weighing-up of the pros and cons is prudent. This is still an uncomfortable (as it should be, perhaps?) concept to this practitioner, and yet it is something that has developed since undertaking Pacesetter placements. Risk is constantly present within medicine, and yet through proper planning and preparation, this risk can be minimised or avoided." APP E1

Having an oversight of patient care has given the APPs confidence that in Primary Care, worst case scenarios rarely happen as long as risks are managed appropriately.

"Paramedics are trained in a way to exclude worst-case scenario first, which often results in a just in case take to hospital attitude. However, I have quickly come to learn that common things happen commonly and the worst case scenario happens rarely." APP E2

Evolution of APP model

As expected APPs talked about how they had adapted the original plan to meet their needs and that of the Cluster. In one area the APP reflected that they had made three amendments to their pacesetter model.

"The Cluster have also been very supportive facilitating, so far, three adaptations to the structure of the project…the initial structure of the project established an across Cluster home visiting project, but this has since been developed and evolved." APP D1

One APP had noted that surgeries were allocating patients with certain complaints. The APP had monitored patient presentations and could use this evidence to support a request to implement changes which would enable them to see a wider range of patients.

"Despite being open to attending any home visit, until this point, I have found that surgeries would often allocate minor illness complaints for my review... The vast majority of home visit patients seen have a respiratory, dermatology or musculoskeletal presenting complaint." APP D1

In another area, the APP reflected that they only recently started seeing patients with a wider range of conditions following a substantial induction.

"The majority of this first eight months has also been about embedding myself into the Primary Care way of working. Furthermore, my clinical time has predominantly been focused on managing acute presentations / exacerbations of chronic conditions, it is only now I find myself consulting on a more wider range of conditions." APP E2

Variation in shift patterns between different areas of the rotation were cited as a current area of dissatisfaction.

"The project has required a change from the traditional 12 hour shift pattern that I have been used to as a full time WAST APP. The new rota involves working a mixture of 10, 12 and 7 hour shifts. I have found it difficult to adapt to the new working hours. I find we lose the benefit of working long shifts but also fail to gain the benefit of a 9-5 week." APP D1

MDT integration and inter-professional relationships

Working with other healthcare professionals proved valuable to the APPs and helped them to understand their role and services available to patients. In turn, other members of the MDT also learnt more about the APP role and WAST and what they can offer to the healthcare system.

"Working in Primary Care has allowed me to network with allied healthcare professionals, leading to a better understanding of each other's roles… other health care professionals are learning about the ambulance service their role and what Advanced Paramedic Practitioners have to offer." APP A1

"It was interesting to understand how our fellow health care professions (HCP's) interpret the role of the APP and Paramedic." APP D1

"Time was spent with the wider healthcare team such as DN's, audiologist etc. this knowledge has allowed me to refer patients to community care closer to their homes where as I would otherwise assumed hospital referral was necessary…I do feel that my improved knowledge of the wider health care system locally has helped me as I am able to more effectively work as part of this wider system as a WAST representative." APP D2

Impact on WAST

MDT integration and new professional relationships in Primary Care were beneficial to the APPs on the WAST aspects of their rotation. The APPs gained better awareness of services making it easier for them to access on WAST shifts which improved the patient experience.

"There was massive benefit in exploring the elements of the MDT; this learning has been most beneficial to my role as a WAST APP. Understanding how all the components integrate together makes it easier to access the best possible for my patients." APP D1

"This networking has also transferred across to my WAST work where I have been able to use this knowledge to get appropriate care through accessing such services following 999 calls, where in the past through fear of missing something may have gone through to hospital just in case." APP E2

"I have taken a great deal from my time in Primary Care, improving my practice while working within the Cluster which I feel is reflected in my practice when undertaking my WAST shifts. I feel my practice is becoming more aligned to the abilities and limitations of Primary Care to support patients in the community, by assessing the severity and significance of the patient's condition." APP C1

The acquisition of new skills was said to increase APP confidence which improved efficiency and reduced the need for the APP to seek a GP opinion.

"…my learning has already demonstrated benefits to both Primary Care and WAST. I feel more confident in my decision making and find myself spending less time with GP's seeking clarification of my decisions, this in turn has led to quicker consultations." APP E2

Increased confidence impacted on the APPs practice on the other aspect of the rotation and the support provided to colleagues in WAST.

"Dealing with a broader range of Primary Care complaints also has impact of my ability to support my EMS colleagues whilst working in the clinical contact centre (CCC). I would attribute this change in my practice to increased confidence as a result of all elements of the project." APP D1

APPs described the positive impact of clinical supervision and how improved clinical skills made them more efficient in their WAST practice, assessing patients effectively and reducing the time spent at scene.

"The impact of structured clinical supervision, which was missing from my MSc education, infiltrates beyond my practice in Primary Care. Calibration of clinical assessment skills and development of clinical management skills have reduced my time spent at scene on 999 APP calls attended for WAST.

My assessment of patients is more efficient and I am able to come up with safe, effective management plans in a shorter time period than before the pacesetter project." APP D1

New perceptions of risk and risk management also affected decision making. Whereas APPs would have previously conveyed patients to hospital they described how they could consider alternative options and potentially prevent ED admissions.

"my WAST consultation times have improved as I am more focused on what the problem is I am dealing with and not worrying so much about all the 'what ifs'. As I accept risk more, in particular especially on the weekend, I can find it more acceptable for patients to wait and see their GP for further delayed investigations as opposed to taking them to hospital." APP E2

Discussion

The reflections returned by the APPs were arranged into nine key themes: Initial expectations and induction, adapting to Primary Care, Supervision, Personal and professional development, Education framework, Risk, Evolution of the APP model, Multidisciplinary working and Impact on WAST. Although it has not been distinguished as a separate category some of the themes are underpinned by the concept of responsibility.

The APPs reflected on a mixed experience through the induction process, with most unsure what to expect and some early concerns which were soon addressed. From some APPs there was a sense of apprehension from the outset and which continued through their writing. The reflections were written eight months into their Primary Care rotation which is still relatively early in the process considering the change to their usual paramedic practice.

Adapting to Primary Care, the APP reflections covered a whole range of challenges from practical issues like ordering tests and time constraints to managing palliative patients and meeting the holistic needs of patients. Supervision was discussed, not just in terms of a senior clinician overseeing their practice but as a source of knowledge which contributed to APP learning.

The APPs were complimentary about their supervision within the Clusters, and about the support received from NEWMEDED GP educators. The education session was an important source of social support in addition to formal learning. Similarly, the APPs wrote about how new professional relationships with MDT members meant they had improved awareness of services available to them in Primary Care and when on WAST shifts.

As part of the theme of personal and professional development, the APPs described "a shift in thinking" along with improved critical thinking skills and developing as a practitioner. This theme also incorporated clinical skills and improvements to consultation and diagnostic skills. This was an area where the APPs particularly aligned their learning to the experience of patients, and what matters to them.

Several APPs recalled that their greatest learning had been around the concept of risk. The NEWMEDED education sessions were said to introduce the concept of risk management but some APPs still used language such as "negligent" "acceptance" and "being comfortable with risk" which may indicate that it is still something they actively consider when as part of treating patients.

It was encouraging that some of the APPs described how the original model was developing and evolving to meet the needs of the APP and Cluster. Having a model that works for both is likely to improve the chances of sustainability long term.

On the whole, the impact of the Primary Care rotation on the APPs work in WAST has been difficult to capture quantitatively due to the small number of APPs and limited time spent in Primary Care. There was a ripple effect whereby exposure to Primary Care patients was said to improve APP confidence and lead to outcomes such as reduced consultation times, better patient assessment, and improved inter-professional relationships (both within and outside WAST). These examples could have further implications, such as reduced ED conveyance through improved risk management. On a larger scale, there would be potential to impact on the whole pre-hospital system, improve patient care and fulfil NHS objectives to deliver the right care close to home.

The aim was to capture APP learning as a result of working on the Pacesetter project. The themes were similar to those captured by Whalen et al (2018) whose research explored the experience of paramedics working in Collaborative Emergency Centres. They identified inter-professional relationships, leadership support, value to community and paramedic identity as key themes.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Chapter 5. Primary Care reported APP Activity data

Background

This chapter provides a summary of the activity data provided by the Primary Care Clusters and compares it with APP data in each area.

Methods

Cluster data provides evidence for the Primary Care element of the APP Pacesetter Evaluation framework to evidence "How has the APP made a difference?". It was collected under the remit of a service evaluation and the processes received approval from a member of staff from BCUHB Information Governance department.

The Cluster proforma collected data on the following items on a monthly basis:

- number of appointments available
- number of appointments utilised for APP consultations
- location of appointment - from five options (own home visit, Residential home visit, Care home visit, Nursing home visit and Practice based appointment)
- type of patient - from four options, categorised by the APP and reported by Cluster (sick patient requiring escalation, well patient requiring reassurance, unwell patient but fit for home management or complex patient requiring supervision or senior discussion)
- complaints or concerns raised by patients who had been seen by an APP

The North West Wrexham, Conwy West, Arfon and Dwyfor Clusters all returned data, there was no information from Conwy East at the time of preparing the report.

Results

North West Wrexham

Appointment utilisation

The data from North West Wrexham indicated that available appointments with APP were never fully used in any month from June to January and averaged 83% over this period. The figures range from 50/72 (69%) in August 2019 to 60/65 (92%) in October 2019. However when compared with APP reported activity (Figure 1) the number of consultations exceeds the Cluster recorded 'number of appointments used' meaning it was difficult to compare the two data sets.

	July	August	September	October	November
Number of APP appointments used as a % of the APP documented activity	52.3%	83.3%	80.6%	98.4%	92.2%

Number of APP appointments

North West Wrexham supplied data from July to November. June was regarded as an induction month for the APPs. There were some inconsistencies between the Cluster reported total activity when compared with the figures provided by the APPs, which were consistently higher. Over time the

activity recorded by the Cluster became more congruent with APP data which might reflect challenges with data collection at the start of the project.

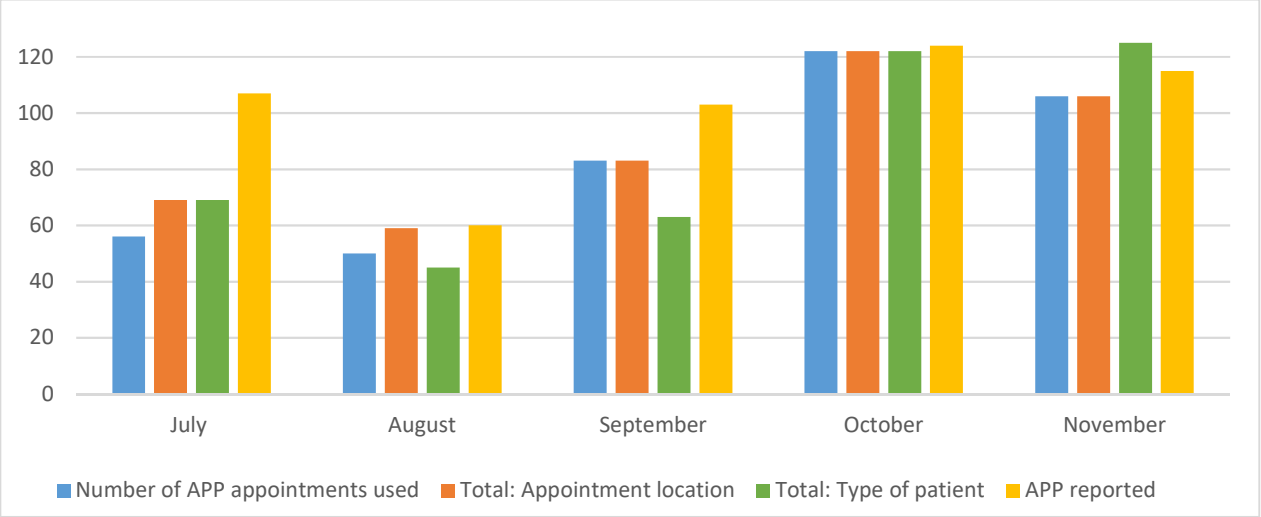
There was an error in the November data as the APPs documented seeing 115 patients, but there are 125 patients categorised by type of patient in the Cluster data. This suggests 10 patients were double counted or incorrectly attributed to the wrong month.

Between July and November, the APP data reports that between 60 (August) and 124 (October) patients were seen per month with an average of 101 across the five months. There was an increasing trend in APP activity, with a peak in October.

For each month, the total number appointments categorised by location was lower than the activity recorded by APPs. Over the five months, the Cluster location data as a proportion of APP reported activity ranged from 64.4% (July) to 98.3% (October).

Similarly, the Cluster data was consistently lower for activity categorised by 'type of patient' when compared with APP activity between July and October. As a proportion of the APP reported total, it ranged from 61.2% in September to 98.4% in October.

Figure 1. North West Wrexham - Variation in reported numbers of patients seen

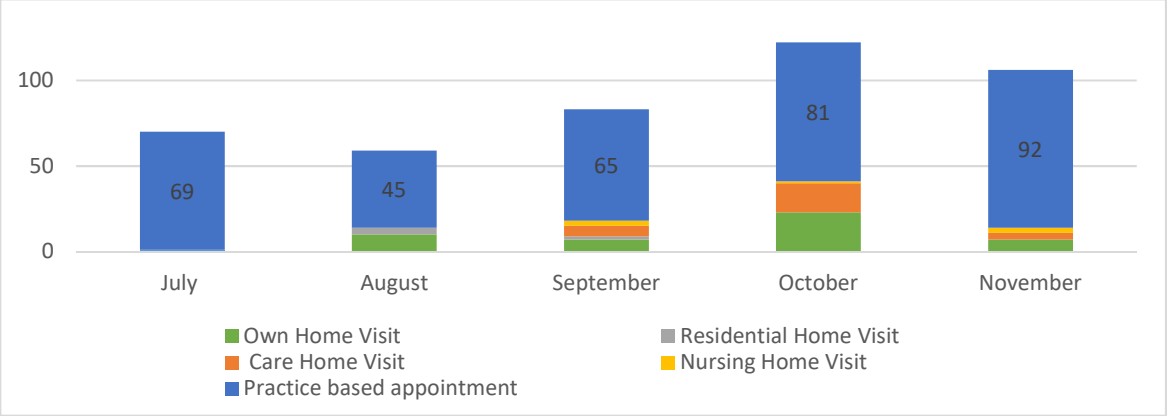


Location of APP appointment

The Cluster proforma had five options for appointment location. The APP activity data collection tool did not document location of appointment over this period so it is not possible to compare Cluster and APP data for this indicator.

As seen in Figure 2, in North West Wrexham the majority of appointments took place in the practice (n=352), followed by patient home (n=47). There were 27 care home visits, and just 7 and 6 for residential and nursing home appointments respectively. The APPs in this area started Nursing home and Care home visits in September. There were no Residential home visits in October and November.

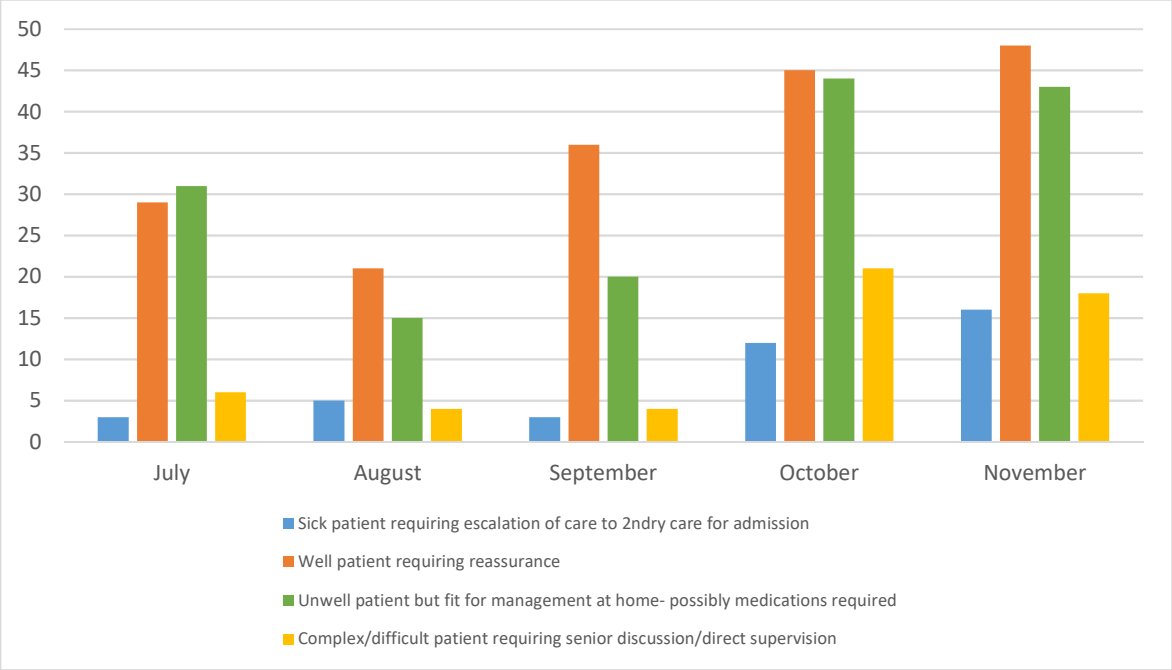
Figure 2. North West Wrexham – location of appointments recorded by the Cluster



Type of patient

For this area, the APPs mostly saw patients who were well but requiring reassurance (n=179), or unwell but able to have their condition managed at home (n=153). There were fewest complex patients (n=53) or sick patients requiring escalation (n=39). In October and November, there was an increase in the proportion of sick patients for escalation and complex patients requiring senior discussion at a higher rate than the other two categories. As a proportion of total patients seen, sick patients increased from 4.4% in July to 12.8% in November and complex patients increased from 8.7% to 14.4% over the same period. This could represent APPs seeing a broader range of patients as they become more established in Primary Care.

Figure 3. North West Wrexham - APP categorised consultations.



GP Consultation

This aspect of the proforma documented the number of times a GP was consulted by the APP. A GP opinion was requested 8, 6- and 27-times during September, October and November. During the same months 3, 10 and 6 patients were recorded as having subsequently seen a GP. It is not clear why the number of patients who saw a GP was higher than the number of times an APP sought GP opinion during October.

Concerns and complaints

There were no concerns or complaints from Practices or the Cluster.

Arfon

Appointment utilisation

Cluster data indicated that appointment utilisation ranged from 90-114% and averaged 98%. The number of available appointments reduced across the months from 83 in July to 28 in December. This could indicate that the Practice have reviewed activity and workload of the APP and adjusted the number of appointments available. When the Cluster data was compared with APP reported activity, the Cluster had underreported activity for all months except July (when it recorded a total of 194.9% of the activity the APP had). The Cluster figures ranged from 47.5% of APP activity in December to 67.1% in August as seen in the table below.

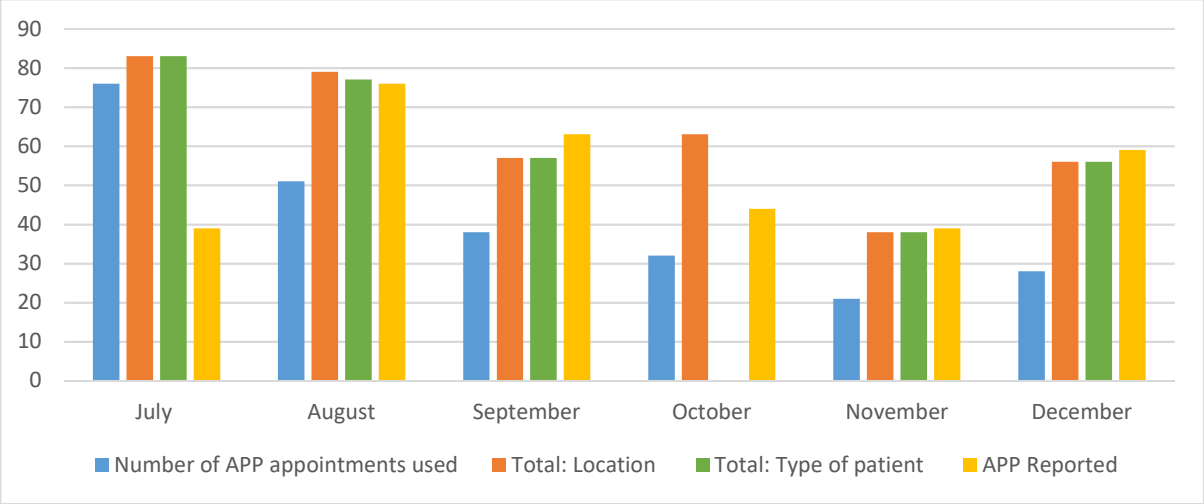
	July	August	September	October	November	December
Number of APP appointments used as a % of the APP documented data	194.9%	67.1%	60.3%	72.7%	53.8%	47.5%

Number of APP appointments

Arfon Cluster supplied data from July to December. Overall, APP documented activity decreased between August and November. The APP saw between 39 (July and November) and 76 patients (November) per month, a monthly average of 53. The APP was reportedly seeing a high proportion of patients with complex needs which required senior supervision/consultation which may have impacted on the number of consultations undertaken. In addition there was an increase in the number of appointments which took place outside the surgery setting, therefore travel time needs to be accounted for.

For July, the Cluster data for number of appointments used, location and type of patient all exceeded APP recorded activity. It is possible that data from June had been attributed to July in error or double counted. Similarly in August, the Cluster totals for location and type of patient exceeded the figure provided by the APP and again in October for type of patient. The Cluster total for location was almost equal to APP documented activity for August, September, November and December, ranging from 90.5% of APP data in September to 101.3% in August. Similar figures were recorded for 'type of patient' as a percentage as a total of APP recorded activity.

Figure 4. Arfon - Variation in reported numbers of patients seen

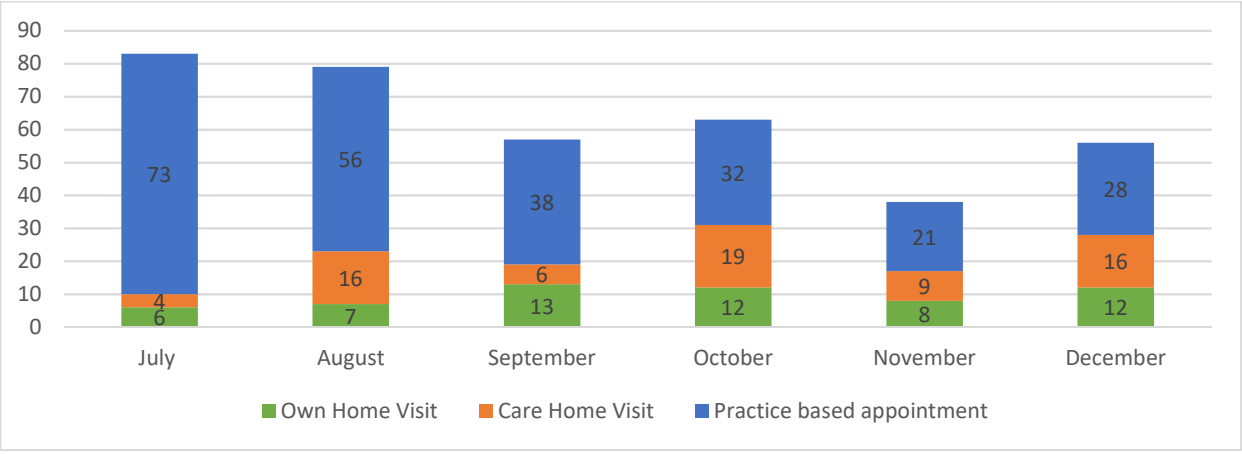


Location of APP appointment

Overall, most APP appointments took place in the Practice (n=248), followed by Care home (n=70) and patient home (n=58). Between July and November the number of practice based visits has reduced, and the combined number of patient home and care home visits has increased. There were no documented residential or nursing home visits, it is possible that the Cluster recorded these under the figure for care home visit.

For the months of July, August and October, the total number of appointments by location exceeded the figure provided by the APP suggesting there may be double counting or a data error. This could also mean the actual proportion of practice visits was considerably lower. For the months of September, November and December where the figure was closer to APP reported activity, there is a more even split of activity between practice, and patient home or care home visits.

Figure 5. Arfon – Appointment location



Type of patient

There wasn't sufficient, consistent data to report further details on the type of patient seen.

It is worth noting that the majority of patients were categorised by the APP or documented by the Cluster as “Complex/difficult patient requiring senior discussion/direct supervision” indicating the need for supervision for the APP.

Concerns and complaints

There were no concerns or complaints from Practices or the Cluster.

Dwyfor

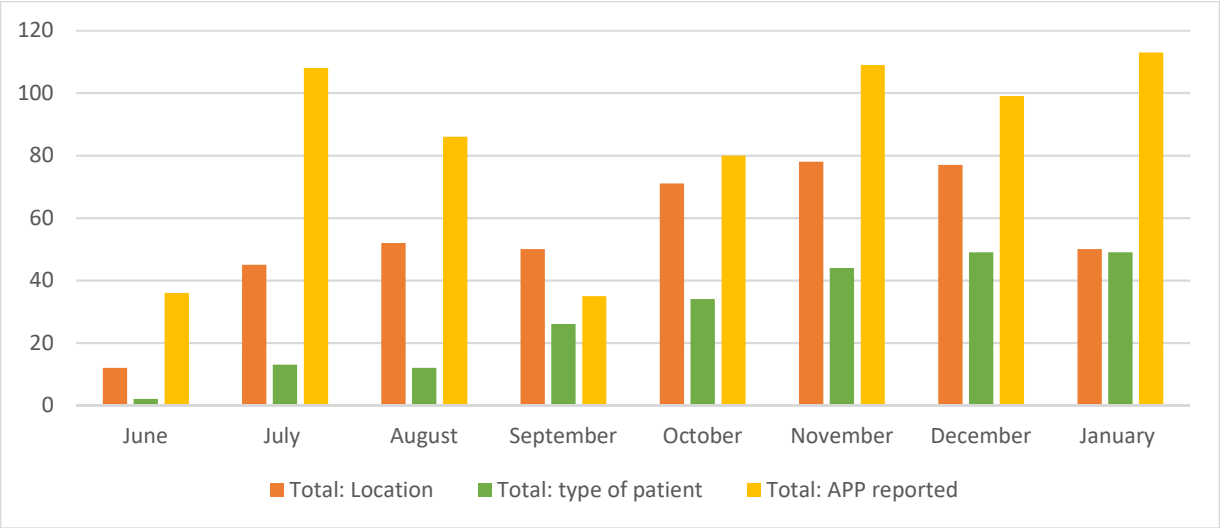
Appointment utilisation

Data was collected from three of the four practices in the Cluster, there was insufficient consistent data to report how many allocated appointments were used.

Number of APP appointments

Dwyfor collected eight months of data (June to January). As seen in Figure 6 there is no consistency between the three data sources for any month. The total APP documented activity was higher than the Cluster totals for location and type of patient every month except September. The Cluster total for type of patient was lowest of all categories every month. As with other Clusters there was a reduction in APP reported activity between August and September. This was followed by an increasing trend and a peak in January with 113 APP consultations.

Figure 6. Dwyfor - Variation in reported numbers of patients seen

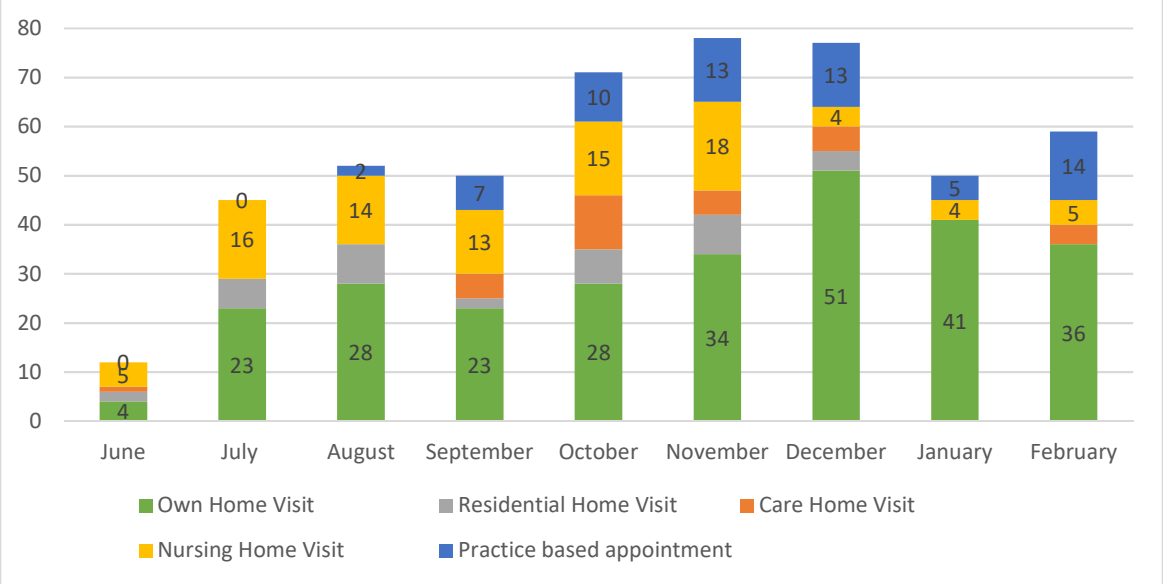


Location of APP appointment

Data on location of appointment was collected for three of the four practices in the Cluster. In addition, one of the practices only provided data from September onwards which may partially explain the increased number of practice appointments over this period (total 64 overall). Generally APPs in this Cluster were seeing most patients in their own home (n=268) or in a nursing home (n=94). There were fewest residential and care home visits (37 and 31 respectively).

The Cluster total for appointment location in September is higher than the APP recorded total number of patients (50 compared to 35 recorded by the APPs).

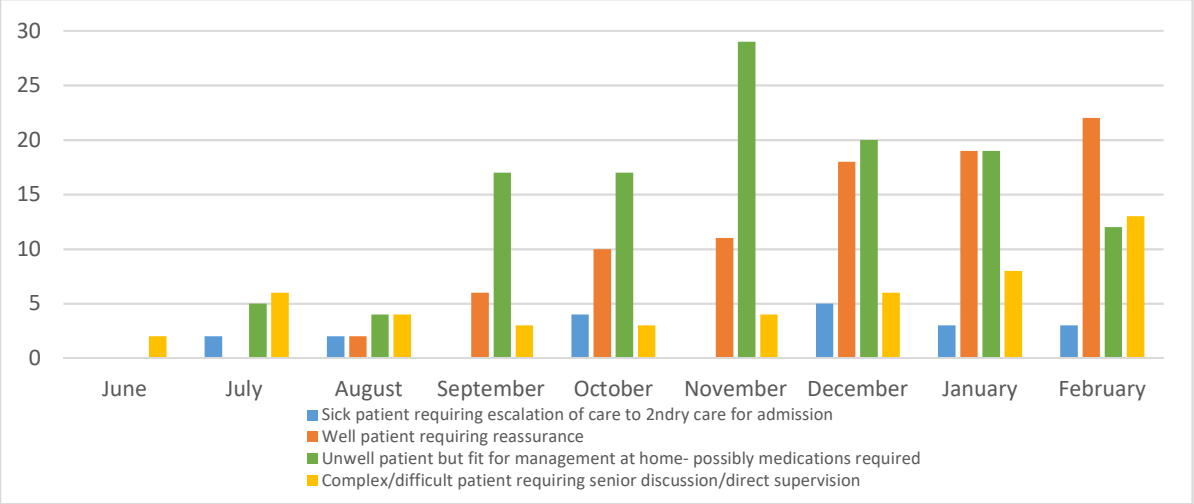
Figure 7. Dwyfor – Appointment Location



Type of patient

The total number of patient consultations categorised by type was considerably lower than APP reported activity. From the data collected, the majority of patients seen by the APP were unwell but able to be managed at home (n=123). There were fewest sick patients requiring secondary care escalation (n=19). An increase was seen in the number and proportion of well patients seeking reassurance and complex patients requiring discussion or supervision from 23% to 44% and 11% to 26% respectively between September and February (as a proportion of the total).

Figure 8. Dwyfor – Type of patient



Concerns and complaints

The Pacesetter Project team are not aware of any complaints or concerns from the Cluster in relation to APP practice.

The Cluster performed their own evaluation and have received feedback from 18 patients who completed a short survey after being seen by an APP. Generally, they were satisfied with the service received, however it does highlight some potential areas for improvement around understanding of medications and involving patients in decisions about any changes to be made. It also indicates that patients felt they received a good service despite the APP not being able to directly provide a prescription.

	Yes very much	**yes partly**	**Not really**	**Not at all**
Did you have long enough to discuss what you wanted?	18 (100%)			
Did your HCP answer your questions?	16 (94.1%)			1 (5.9%)
Do you feel you now have better understanding of your medications?	11 (78.6%)	1 (7.1%)		2 (14.3%)
If change were made, did you agree with these?	8 (61.5%)			5 (38.5%)
Were your options taken into consideration during this consultation?	16 (94.1%)	1 (5.9%)		
Do you feel that if your HCP could have written a prescription it would have improved the service?	11 (64.7%)	1 (5.9%)	1 (5.9%)	4 (23.5%)

Some patients also provided written feedback in the free text section, all of which was positive. A selection can be found below:

"Even called Social Services and Physio, did more than expected"

"Easy to talk to, very friendly"

"Very professional, was very ill, thank you"

"Very friendly, good idea to have somebody that can go out any time"

(Translation) "Help for people who are scared to speak to a doctor, to speak in Welsh.

Conwy West

Appointment utilisation

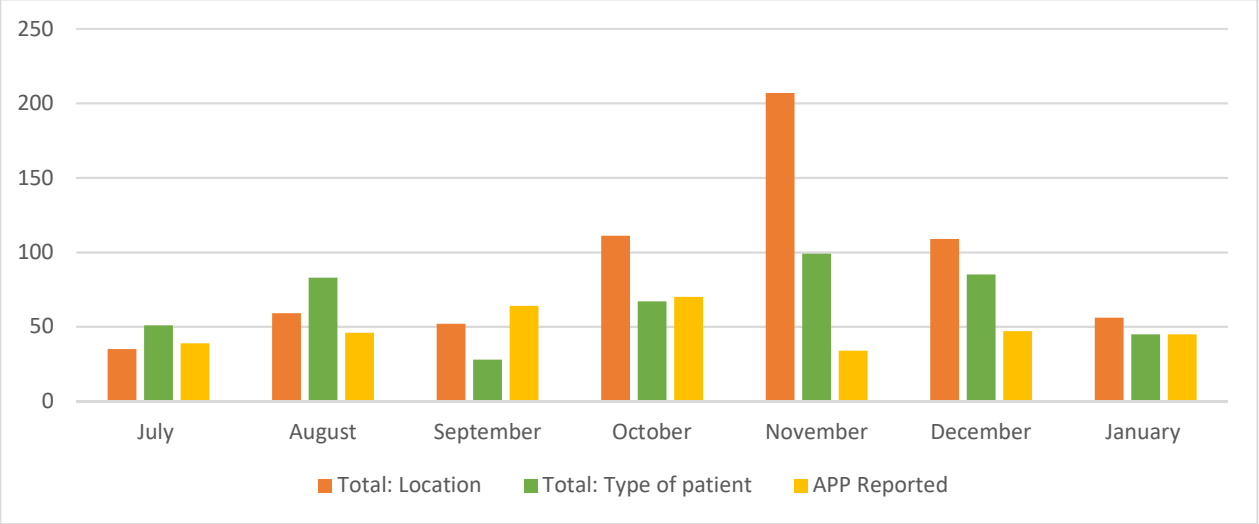
There was no data supplied to enable calculations for appointment utilisation.

Number of APP appointments

Cluster data was provided from June to January. APP activity data was available for both APPs until October, after which time only one APP supplied this information. This may explain why the Cluster totals for location and type of patient are higher than APP from November onwards. Between July and October APP reported activity had been rising each month. It is not known whether the decrease between November and January for the Cluster data categorised by location and type of patient was a data error or reflection of actual activity.

There was a discrepancy in the total number of patients reported by the Cluster for each category. The only month there was congruence between any data source was January, when the APP recorded total, matched the Cluster total for type of patient seen (n=34). If actual APP activity was close to the Cluster data then it has been considerably underreported for example November total by location was 207 for the Cluster versus 34 documented by the APP. This data could also be erroneous as the APPs mostly undertook home visits as seen in figure 10 which may be unrealistic accounting for travel time. It was also more than triple the total figure for the best month in Arfon where there was one APP. The only month where data from the APP was higher than Cluster data on location and type of patients was September.

Figure 9. Conwy West - Variation in reported numbers of patients seen

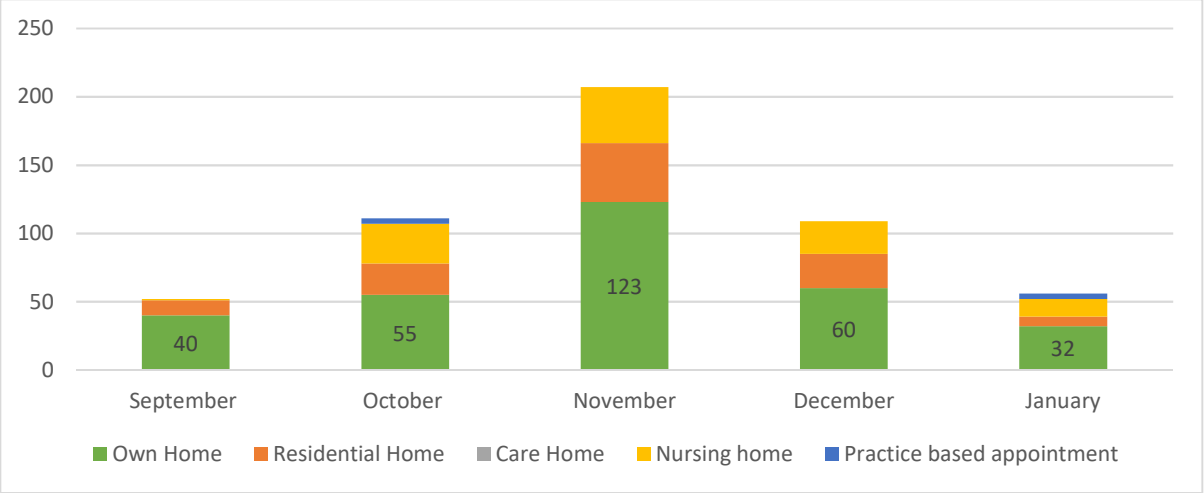


Location of APP appointment

The data indicates that in Conwy West, most appointments were carried out by the APPs in the patient's own home (n=310), followed by residential then nursing home (125 and 121 respectively). There were only 8 practice based appointments in total, 4 each in October and January.

The number of appointments by location were consistently higher than the figures from the APPs which may suggest there was an error in the data.

Figure 10. Conwy West – location of appointments recorded by the Cluster

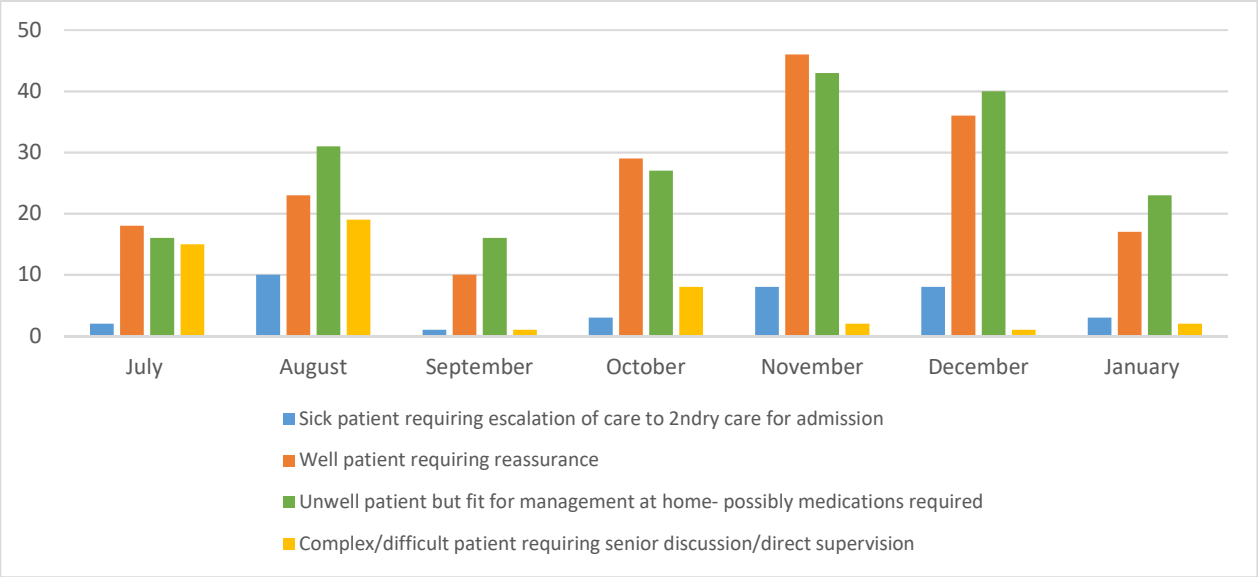


Type of patient

Across all months, the APPs saw the highest number of patients categorised as unwell but fit to be managed at home (n=196), followed by well patients seeking reassurance (n=179). The APPs saw fewest sick patients needing escalation (n=23) and complex patients needing GP supervision (n=14). There was an increase in the number of sick patients for escalation between September and December which coincided with a consistent decrease in the number of complex patients seen between October

and January. The higher numbers of well patients seeking reassurance and unwell but able to stay at home may be because the APPs mostly conducted home visits in this Cluster and patients may have been triaged effectively prior to the visit.

Figure 11. Conwy West - APP categorised consultations.



Concerns and complaints

There were no concerns or complaints on the proforma.

Conwy East

At the time of data analysis, there was no data available from Conwy East.

Discussion

From reviewing the data as a whole, it was noted that the Cluster documented the location for 1,938 appointments carried out by an APP (of 2,565 in total). Of these, 1,266 (65.3%) took place outside of the surgery setting; 748 in patient home and 222, 168 and 128 in nursing, residential and care homes respectively. There were 672 APP appointments (34.7%) in surgery clinics. This is an important as travel time needs to be taken into account when considering APP capacity and planning daily activity.

The data collected by Clusters has been inconsistent both in terms of data provided for each category on the proforma, and also when compared with APP activity. In addition, incomplete data provided by APPs in some Clusters has made it difficult to assess the accuracy of the Cluster data. Taking into account the missing data from Clusters, if data capture had been wholly accurate the total for each category might have been quite different. This highlights some of the difficulties that can be expected when a number of people and practices are involved in collecting data.

It is also difficult to compare between Clusters to develop a general set of findings as there is no complete data from June to January. However, some general trends were noted. In North West Wrexham and Arfon the highest number of appointments had taken place in the practice, whereas for Dwyfor and Conwy West it was the patient home. For categorisation by type of patient, North West

Wrexham saw most patients who were well but requiring reassurance, Dwyfor and Conwy West had both seen most who were unwell but fit for management at home. North West Wrexham and Dwyfor both noted an increase in the number of complex patients over time, whereas Conwy West experienced a decrease.

The data provides a snapshot of activity over a relatively short time period. The APPs started in Primary Care in June, and underwent an induction period while APPs were oriented in their new role. Capturing data over a longer period of time (for example the first 12 months) should identify more consistent trends. These early findings could also be used to investigate trends and changes in the data in more detail.

From February 2020 a new spreadsheet was introduced for the APPs to record activity at patient level. This will allow the Project team to capture information such as type of patient seen and investigations ordered in more detail. In time, it is hoped the Pacesetter Project team will have support to build a smartphone/tablet app which will allow the APPs to capture activity in real time.

The feedback from the short questionnaire carried out in Dwyfor highlights the importance of the patient voice and how feedback can be used to influence clinician practice and improve the service delivered to patients.

Chapter 6. APP Activity Data (June-January)

Background

This chapter provides an analysis of the APP reported primary care activity data from June 2019 to January 2020.

Methods

The APPs completed a daily evaluation sheet which captured total activity but no patient level data. This document was emailed to an individual in WAST who collated the data and produced a monthly Excel spreadsheet. This data was analysed in Excel by a member of the APP Pacesetter project team and the findings are summarised within this document.

Activity data intended to fulfil some of the aims of the 'am I effective?' APP element of the Pacesetter evaluation framework. The data captured number of patients seen, disposition, use of supervision, use of pathways and MDT integration. It also recorded prescription data which fulfilled sections of the Primary Care element of the evaluation framework. As with the Primary Care, data, it was collected within the remit of a service evaluation, and the processes received approval from a member of staff from BCUHB Information Governance department.

The data was incomplete in Conwy East and Conwy West, missing five and three months' worth of data respectively and will not represent the actual total activity undertaken by the APPs in these Clusters. North West Wrexham lost activity during January 2020 as one APP was absent from work for the month.

Results

Headline Findings

- 432.25 hours spent with a Supervisor
- 2565 patient consultations with an APP
    - 820 (32%) did not need treatment
    - 1043 (40.7%) required a prescription
    - 173 (6.7%) referred back to GP
    - 423 (16.5%) PGD Appointments
- 60 (2.3%) patients referred to ED
- 34 (1.3%) patients referred to MAU
- 13 (0.5%) patients referred to SAU
- 16 (0.6%) referred to ACU/RAU

Investigations instigated: Blood sample, ECG, Urine sample, Radiology (ultrasounds, X-ray, CT, colonoscopy), BP, Stool sample, Swab, dementia screen, Peak flow, sputum sample,

Referrals: DVT, CRT, Gastro, TIA Clinic, School Nurse, Mental Health, Rapid Access, Chest pain clinic, ENT, Neurology, Orthopaedics, Urology, Dental, Dietitian, DNs, IV Suite, Endoscopy, palliative Care, Ophthalmology, Pest Control, Physiotherapy, Gynaecology, Chiropodist, Dermatology, Respiratory, Paediatrics, Asthma clinic, GUM.

Total number of patients seen

In total, there were 2565 consultations with an APP between June 2019 and the end of January 2020, this is broken down by Cluster in table 1. The Cluster with the fewest consultations was Conwy West with 345, however there was some data missing for one APP. In addition, the APPs were performing visits outside the surgery, so travel time would need to be accounted for. The second lowest was Arfon with 395 where just one APP works in the Cluster. Conwy East had a total of 442 consultations but would be higher if full data had been available from the APPs. In Dwyfor there were 680 and North West Wrexham, 703. If an assumption was made that the missing activity data was equal to the other APP in the Cluster, there would have been an additional 352 consultations recorded, totalling 2,917 between June and January.

Table 1. Total patients seen per Cluster

Conwy West (missing data)	Arfon	Conwy East (missing data)	Dwyfor	NW Wrexham
345	395	442	680	703

The total number of consultations with an APP by month can be found in Table 2. The figures represent a four-day working week in Primary Care, except for Arfon where there is 1 APP covering just two days. As expected, the fewest patient consultations were in June when the APPs underwent induction in Primary Care. The mean average from July to January was 344 per month. Although there is not a consistent increase month on month, figure 1 displays an overall increasing trend.

APPs in Arfon, Conwy East and Dwyfor all recorded a decrease in the total number of consultations from August to September, a reduction of 81 to 27 in Conwy East, and 86 to 40 in Dwyfor. A subsequent increase followed in October. This is thought to be due to APP annual leave. The months with the highest number of patient consultations December and October, and the lowest January and September (excluding June).

Table 2. Total number of consultations with an APP by month (all Clusters).

June	July	August	September	October	November	December	January
158	355	349	297	373	337	377	319

Figure 1. Total number of consultations with an APP by month (all Clusters).

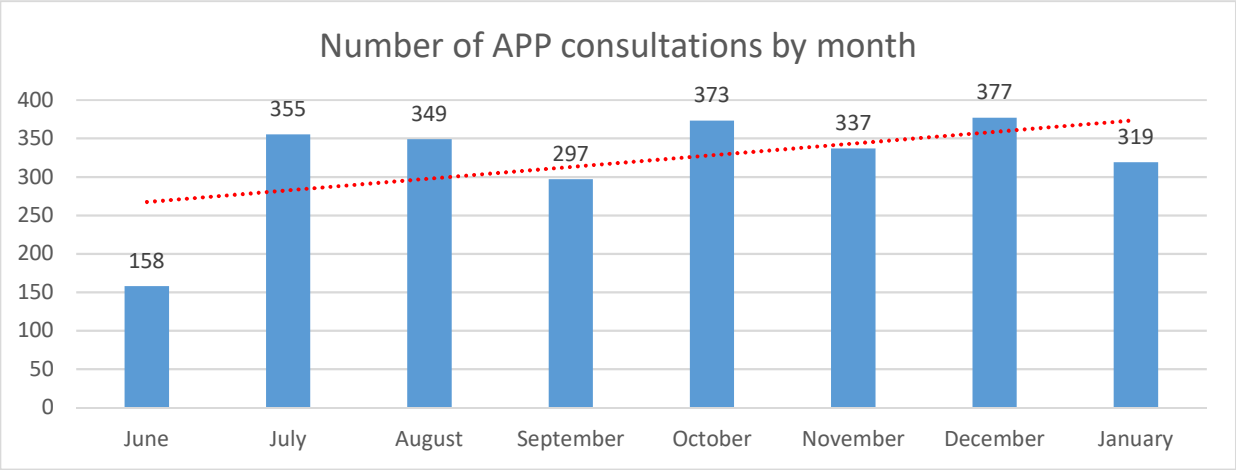
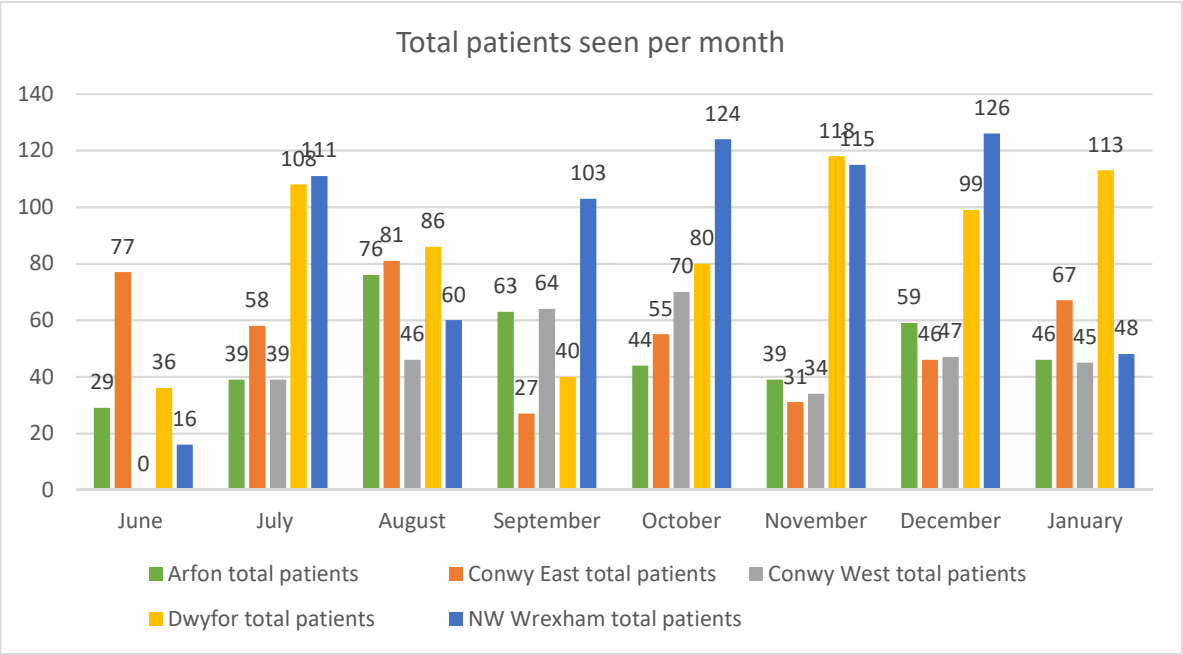


Figure 3 includes the total number of consultations with an APP by month per Cluster and reflects the pattern seen in table 1. North West Wrexham had the highest total number of patients seen for four of the eight months (July, September, October and December) and second highest for November. The highest number of patients seen by a single Cluster in one month was 124 in October for North West Wrexham.

Dwyfor had the highest number of consultations for three of the months (August, November and January) and second highest for four (June, July, October and December). Across the eight months, Conwy East had ranked in all positions (based on number of patient consultations) from first to fifth but consistently ranked fourth of fifth between September and December. This may be due to missing data for this Cluster for these months. Arfon, ranked in third or fourth position of all Clusters for seven of the eight months, Conwy West ranked fourth or fifth for five of the eight months.

Figure 3 displays the considerable variation between Clusters across the range of months. The month with the highest variation was November where the number of patients ranged from 31 in Conwy East to 118 in Dwyfor. The month with the lowest variation was August where there were 46 patients seen in Conwy West and 86 in Dwyfor. The Cluster with the greatest variation over the months was North West Wrexham ranging from 16 in June to 126 patients in December. Arfon had the lowest variation in number of patients seen over the months, from 29 in June to 76 in August).

Figure 3. Total number of consultations with an APP by month by Clusters



Supervision

There was wide variation in GP supervision between the Clusters. This may be because APPs interpreted the definition differently and recorded data accordingly.

Across all Clusters, APPs received 432.25 hours of GP or Practice supervision, which represents 11.5% of their time in practices. This data is displayed below by month in figure 4. A total of 237.25 or 54.9% of the total supervised hours were in June and July when the APPs were undergoing Primary Care induction. It is possible that some of this time represented time spent shadowing GPs rather than supervised practice.

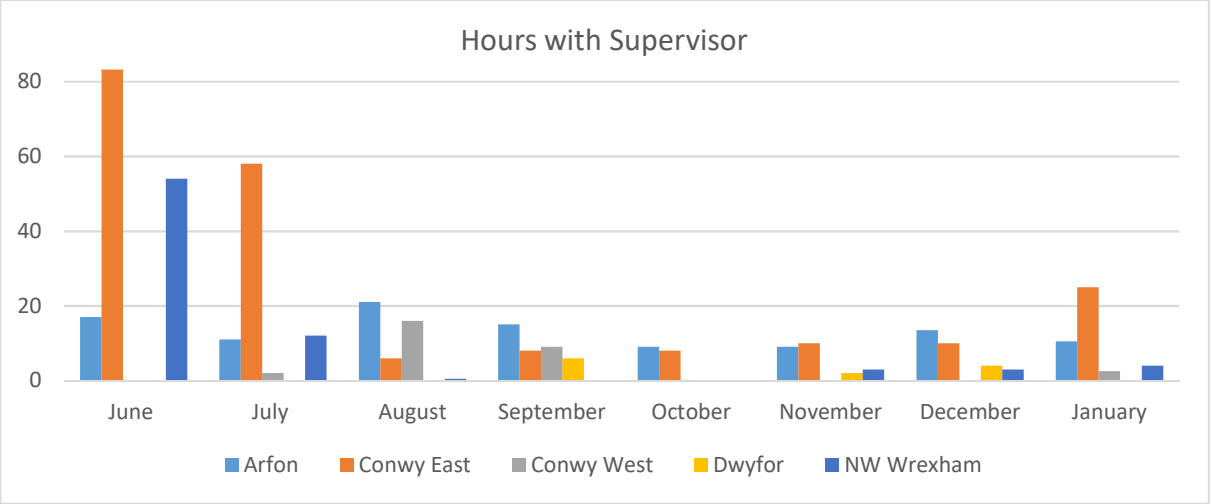
Table 3. Total hours of supervision for all Clusters

Dwyfor	Conwy West	NW Wrexham	Arfon	Conwy East
12	29.5	76.5	106	208.25

The hours of supervision across the eight months ranged from 12 in Dwyfor to 208.25 in Conwy East. In Conwy East, 141.25 of these hours are attributable to June and July (83.25 and 58 hours respectively) and are likely to represent induction time. Arfon had just over half the number of hours of Conwy East but one APP which indicates individuals in the two Clusters received a similar level of supervision.

As expected, the month with the highest hours of supervision was June (154.25), followed by July (83), August (43.5), January (42), September (38), December (30.5), November (24), October (17). The increase in January may be attributable to the APPs starting supervised clinics in Conwy East, where an additional level of support was required. Conwy West reported no supervision in June, October, November and December. APPs in North West Wrexham received 54 hours in June and 12 in July, but no more than 4 hours in each of the remaining months. In Dwyfor there were 6, 2, and 4 hours respectively for September, November and December but no other structured supervision.

Figure 4. APP reported hours spent with supervisor.

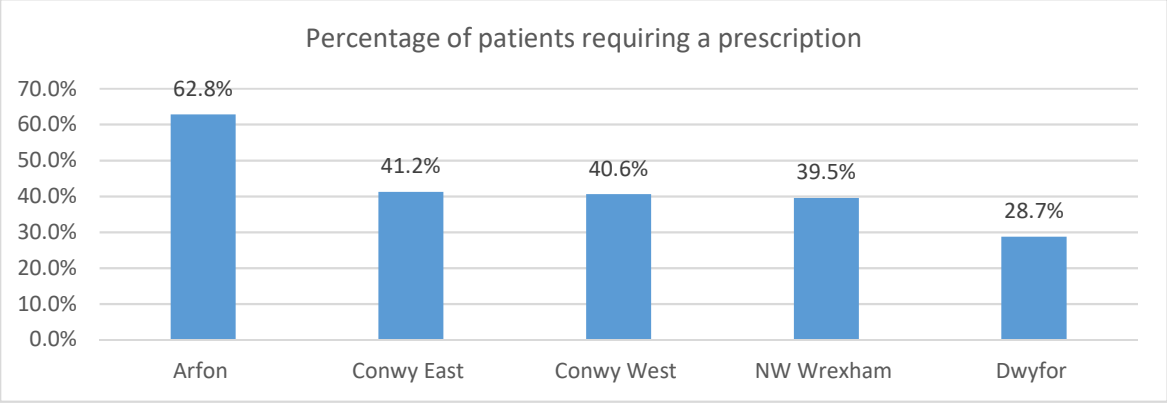


Prescriptions

Across all months and Clusters, 40.7% of patients who consulted an APP needed a prescription. Three of the APPs are currently undertaking their Independent prescribing qualification, and one (covering Arfon) had qualified prior to starting the rotation. This may account for the higher proportion of patients requiring a prescription in Arfon as outlined in figure 5.

Conwy East, Conwy West and NW Wrexham all had a similar proportion of patients needing a prescription, around the average of 40%. In Dwyfor, the percentage was slightly lower at 28.7%, this may be because the APPs in this area were performing visits outside the surgery on pre-triaged patients.

Figure 5. Percentage of patients requiring a prescription by Cluster

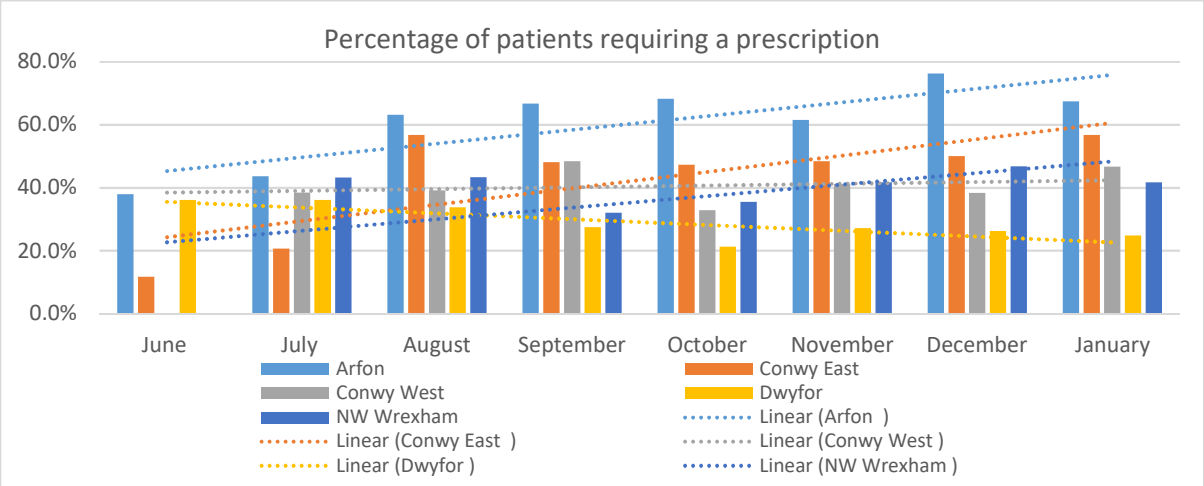


The month with the highest total number of patients needing a prescription was December with 171 followed by August with 167. The Cluster which issued the highest number of prescriptions in a single month was North West Wrexham with 59 in December. The month with fewest prescriptions issued (based on total from all APPs) was June with 33 followed by September with 130.

Figure 6 displays the percentages of patients requiring a prescription by Cluster and month. As outlined above, Arfon consistently had the highest percentage of patients who were prescribed treatment peaking at 76.3% in December. Conwy East have an increasing trend between June and January from 11.7% to 56.7%. The proportion pescribed treatment in North West Wrexham varies between months but shows an overall increase on the trendline. This may be linked to APPs seeing increasing number of patients with a wider variety of clinical presentations as they become established in Primary Care.

The trend for Conwy West has remained stable across all months. The trendline for Dwyfor showed a decrease between June and January from 36.1% to 24%. This could be because the practices allocate patients more efficiently or because of better awareness around alternative services available in the community. Qualitative methods could be used to explore whether there is there a difference in the presenting patients or whether they have utilised alternatives to prescriptions in the community.

Figure 6. Percentage of patients requiring a prescription by Cluster and month.



Patients not requiring treatment

The proforma asked APPs to document the number of patients who did not require treatment. There was wide variation between the Clusters in the number of patients who did not need treatment as a

percentage of the total seen overall which may indicate that the measure is open to interpretation by APPs.

Of the total 2,565 patients seen by an APP, 820 or 32% did not require treatment, 1745 or 68% did. This is broken down by Cluster below in table 4. Arfon had the highest percentage requiring treatment, Dwyfor had the lowest. This may be explained by the model and APP utilisation in Arfon; however it is unclear whether it is due to a higher number of unwell patients presenting or an efficient triage system.

The month with the highest number of patients not needing treatment was December (n=139) followed by October (n=137). The lowest were June (n=24) and July (n=83).

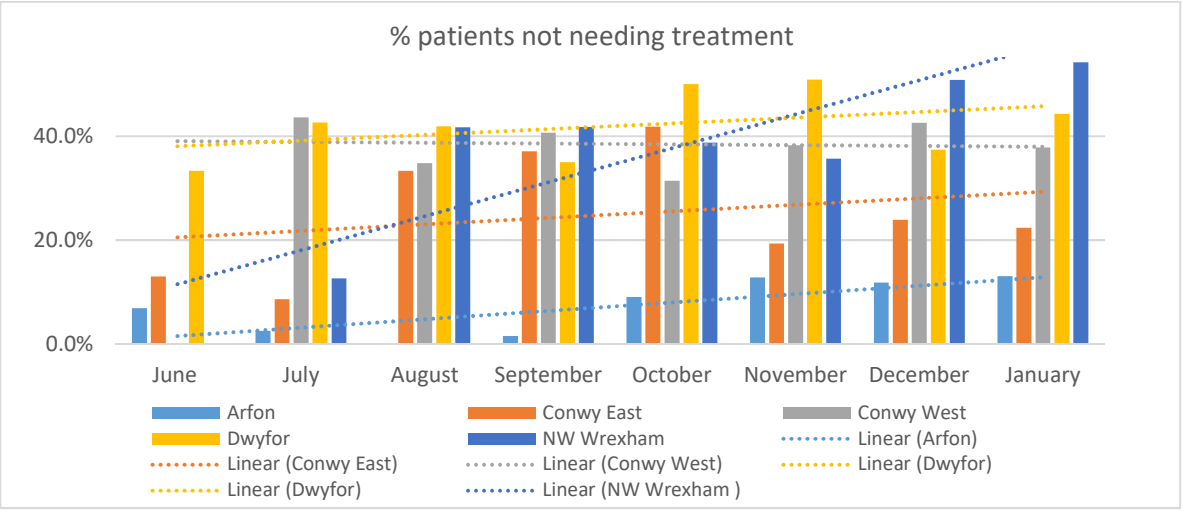
Table 4. Percentage of patients who requiring treatment per Cluster

	Arfon	Conwy East	NW Wrexham	Conwy West	Dwyfor
% did not require treatment	6.6%	24.2%	37.1%	38.0%	43.4%
% required treatment	93.4%	75.8%	62.9%	62.0%	56.6%

All Clusters except Conwy West showed an increasing trend between June and January indicating that more patients did not require treatment (displayed in Figure 7). The trend in North West Wrexham has increased particularly steeply and may be interpreted as APPs having increased confidence in decision making and management of patients. Anecdotally, APPs have described circumstances where they would previously have requested a GP prescription or treatment, but now choose not to, or defer decisions where it's clinically safe to do so.

The trend for Conwy West remained stable across all months, the same pattern as for 'percentage of patients requiring a prescription'. Arfon had the lowest overall percentage of patients who did not need treatment, ranging from 0% (August) to 13% (January) indicating that most patients who saw the APP received treatment. The APP in Arfon has been annotated on the HCPC prescribing register since June 2019 and may account for the figure in this area.

Figure 7. Percentage of patients who did not require treatment



PGD

Patient group directions (PGDs) are written instructions which help registered paramedics to supply of administer medicines to patients, usually in planned circumstances (UK Government, 2017). There are strict regulations around this process and Healthcare professionals can only supply and or administer medication under PGDs if there is an advantage for the patient without compromising safety.

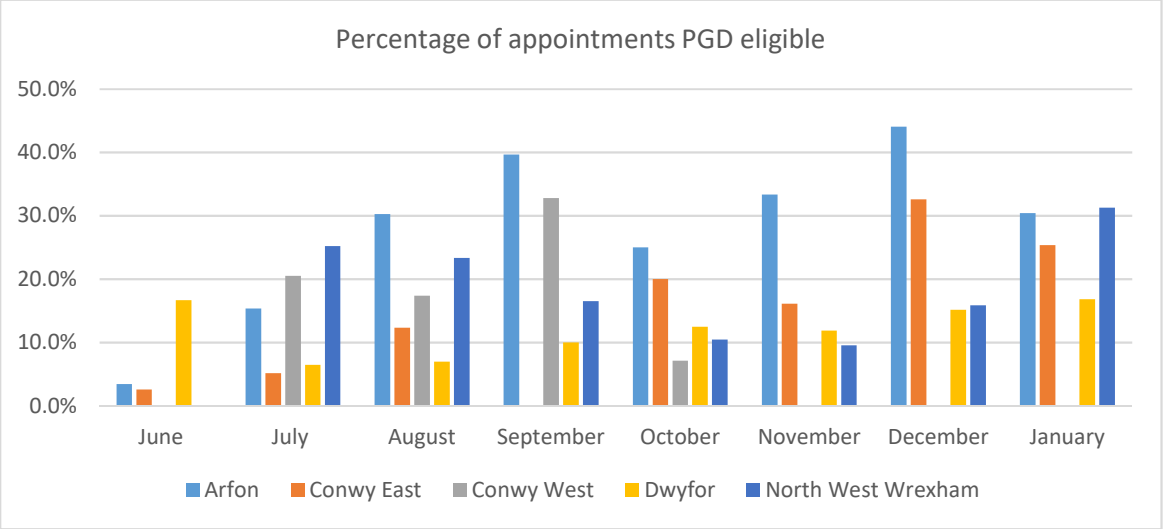
The data collected by the APPs represents the number patients who would have been eligible to receive PGD medicines according to the guidance. In total, 423 or 16.5% of patients would have been eligible for PGD Appointments. The Clusters with the highest total number of patients eligible for PGDs were Arfon (n=119) and North West Wrexham (n=118). The lowest were Conwy East (n=63) and Conwy West (n=42). The month with the highest number was December (n=76) and the lowest was June (n=9).

Table 5. Number pf patients eligible for PGD Appointments by month

June	July	August	September	October	November	December	January
9	52	61	67	50	43	76	65

Figure 8 below displays the figures as a percentage of the total number of patients seen by the APP. As with total numbers, Arfon also had the highest percentage between August and December, (where it peaked at 44.1%). In Conwy West there were four months with no PGD eligible patients. The trend for North West Wrexham decreased between July and November but has since increased. Similarly, Conwy East reported 0% in September but has since increased. Dwyfor consistently scored around or below average across all months, ranging from 6.5-16.8%.

Figure 8. Percentage of PGD eligible appointments



Referral back to GP

The activity data recorded the number of APP consultations which converted to a referral back to a GP. The reason wasn't captured on the APP data collection document but was on the Primary Care proforma. The APPs in each Cluster have received different levels of support from GPs which may

affect how data is captured. Clusters with low levels of referral back to GP may represent areas where the APPs are already well supported by GPs and that referral or consultation with GP has been part of the induction process. For example, Dwyfor had the second highest number of referrals back to GP and the lowest reported hours of supervision. The APP in Arfon had a high level of supervision and documented the lowest rate of referral back to GP.

Across eight months a total of 173 patients were referred back to the GP for review, representing a small proportion of the overall number of APP consultations (6.7%).

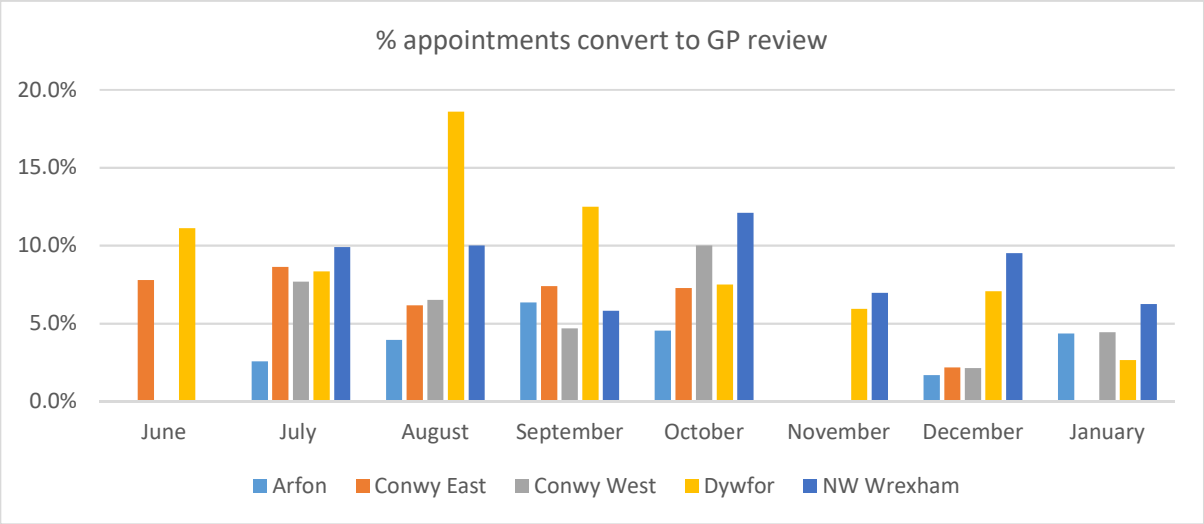
Table 6. Percentage and number of APP consultations which converted to GP review

Conversion to GP review	Arfon	Conwy East	Conwy West	Dwyfor	NW Wrexham
Percentage	3.3%	5.2%	5.5%	8.4%	8.7%
Number	13	23	19	57	61

When the number APP appointments converting to GP review was reviewed as a percentage of the total number of patients seen, the only identifiable overall trend was that there was a general decrease in November, December and January which may have coincided with the APPs practicing more independently as they became established in Primary Care. The Clusters with the highest percentage of APP appointments converting GP review were North West Wrexham and Dwyfor which may be partially due to these Clusters seeing the highest numbers of patients overall. The low figure from the Arfon Cluster may be attributable to the high proportion of patients who were issued prescriptions by the APP.

The months with the highest percentage of appointments converting to GP review were August followed by October. The highest percentage for any one month was 18.6% in August for Dwyfor. The months with the lowest conversion to GP appointment as a percentage of total patient's seen were January and November. Conwy East and Conwy West both reported two months where there were no conversion to GP review. In addition, three of the Clusters recorded no conversion to GP review during November. This could be explored further using qualitative methods.

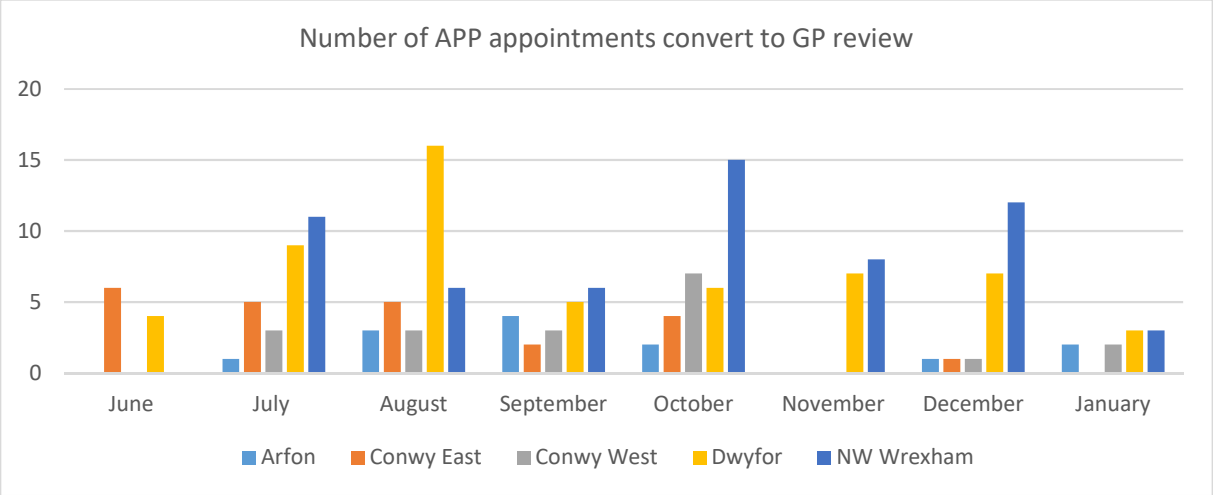
Figure 9. Percentage of APP consultations which reverted to GP



Based on numbers rather than percentages, North West Wrexham had the highest overall number of conversion to GP review (n=61) and Arfon fewest (n=13). Dwyfor had similar numbers to North West Wrexham. Conwy East and Conwy West each ranged from 0 to 7 patients requiring GP review per month.

The months with the highest total number of conversion to GP review were October (n=34) and August (n=33), although it appears the data may have been skewed by a single Cluster for these months. The lowest were June and January (n=10 and 12 respectively).

Figure 10. Number of APP appointments converting to GP review



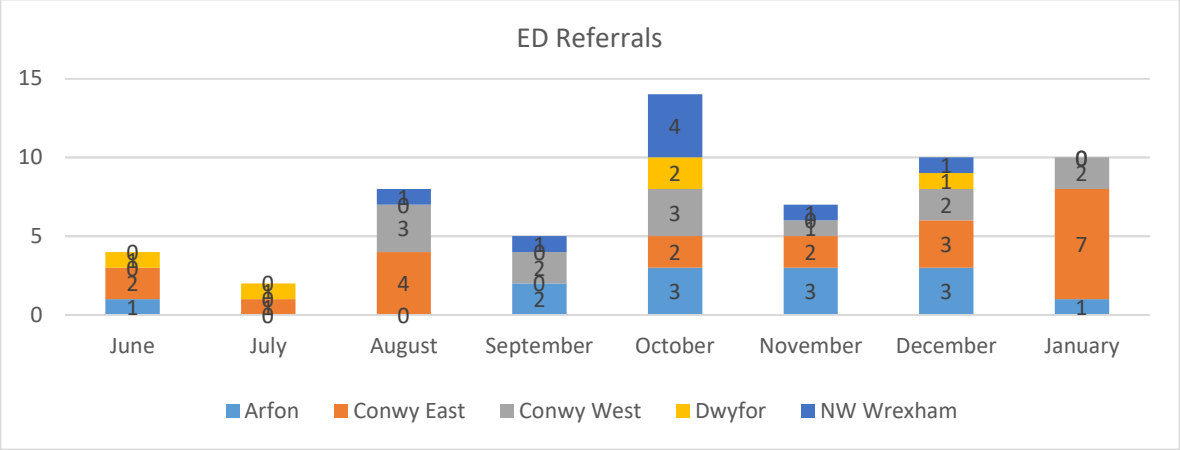
Secondary care referrals

In total there were 60 Emergency Department {ED) referrals (2.3% of all APP appointments) from all Clusters over eight months, where a patient presented to the APP and was identified as needing urgent escalation of care. As documented below, there were most in Conwy East and fewest in Dwyfor. The highest number of ED referrals were in October, followed by December and January. The highest number of referrals from a single Cluster in a month was Conwy East in January (7). It is not possible to determine from the data whether the referrals were from surgery clinics or patient/care home visits. The higher figures for the winter months may be accounted for by seasonal illnesses. There were fewest referrals in July (2 from Dwyfor) and all Clusters had at least one month when there were no ED referrals. Conwy West and Arfon who saw the fewest patients overall referred the third and second highest number respectively, to ED. Conwy West also showed an increasing trend from October onwards.

Table 7. Number of ED referrals by Cluster

Dwyfor	NW Wrexham	Conwy West	Arfon	Conwy East
5	8	13	13	21

Figure 11. ED Referrals



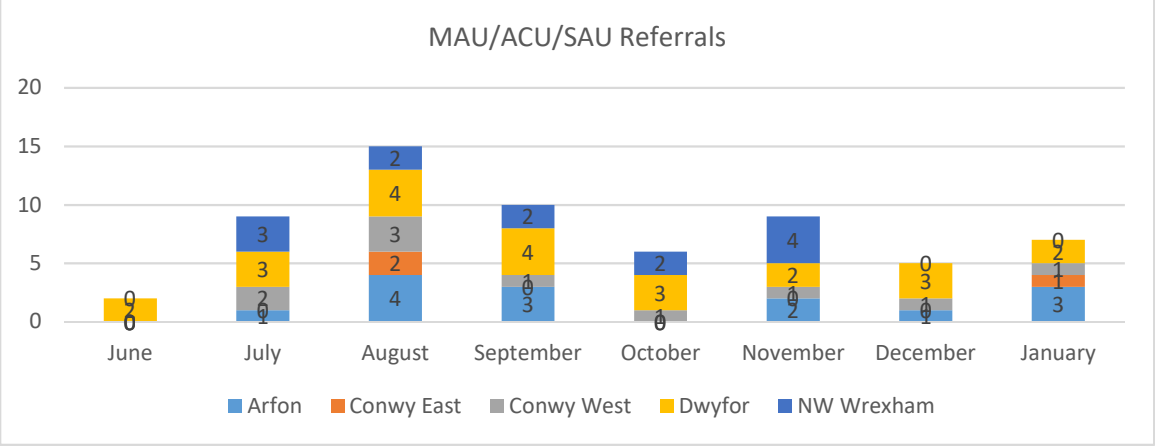
As with ED referrals, there was variation between the Clusters in the numbers of patients referred to Surgical Assessment Unit (SAU), Medical Assessment Unit (MAU) or Ambulatory Care Unit (ACU). Interestingly, Conwy East referred the highest number of patients to ED, but sent fewest to MAU/SAU/AMU while Dwyfor who sent fewest to ED referred the highest number of patients to these services. Some of this variation may be explained by access to services depending on APP location.

Table 8. SAU, MAU or ACU referrals by Cluster

Conwy East	Conwy West	NW Wrexham	Arfon	Dwyfor
3	10	13	14	23

In total there were 63 referrals (2.5% of all APP consultations) to the three services, comprising 34 to MAU, 16 to ACU and 13 to SAU. In contrast to the ED data, where there were higher numbers of referrals during winter months, there were most during August (15) and September (10) and fewest during December (5) and June (2). Conwy East only made referrals in August and January, and all Clusters except Dwyfor had months when there were no referrals. The highest total referred by any Cluster in a month was 4 from Dwyfor in August and September.

Figure 12. MAU/ACU/SAU referrals

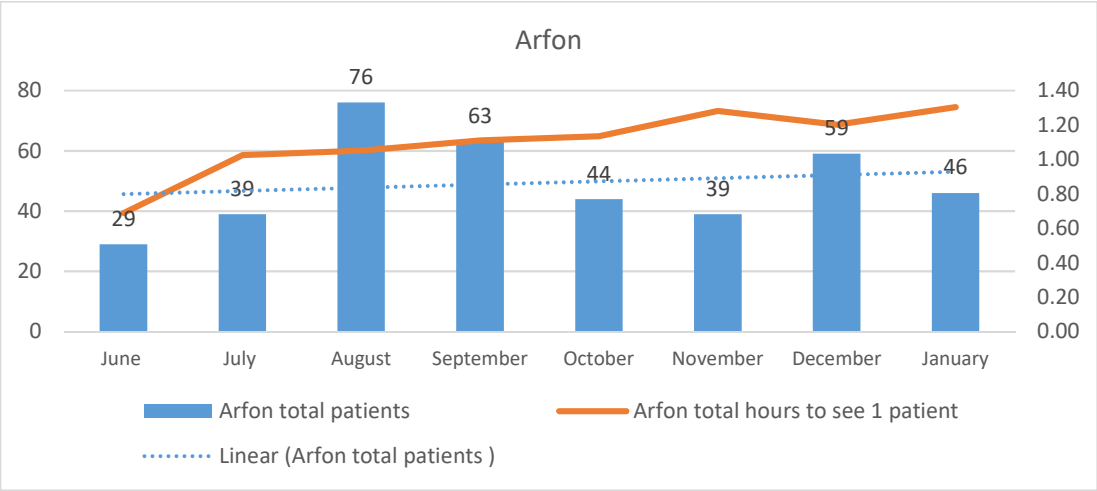


Arfon

In Arfon Cluster there was one APP who completed 395 patient consultations between June and January. Data from August and September indicated that activity was similar to Clusters where there were two APPs. Total number of patients seen initially increased from June to August but subsequently

decreased between August and November. The trend line shows a slight increase across the eight months. The APP saw most patients in August (n=76) and fewest in June (n=29) and an average of 49 per month. Primary Care data showed that appointment utilisation was efficient, but the number of available appointments reduced. This may be attributable to the APP seeing more patients on home visits outside the surgery setting (as outlined in Cluster data), where travel time needs to be accounted for.

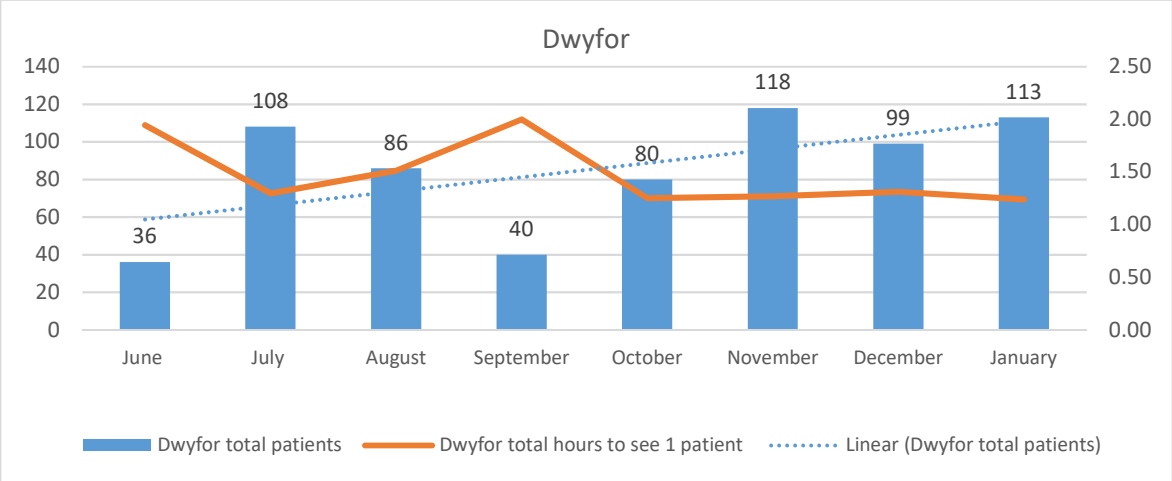
Between June and January, the time taken to see one patient has almost doubled from 0.7 hours to 1.3. This could be explored in more detail using qualitative methods.



Dwyfor

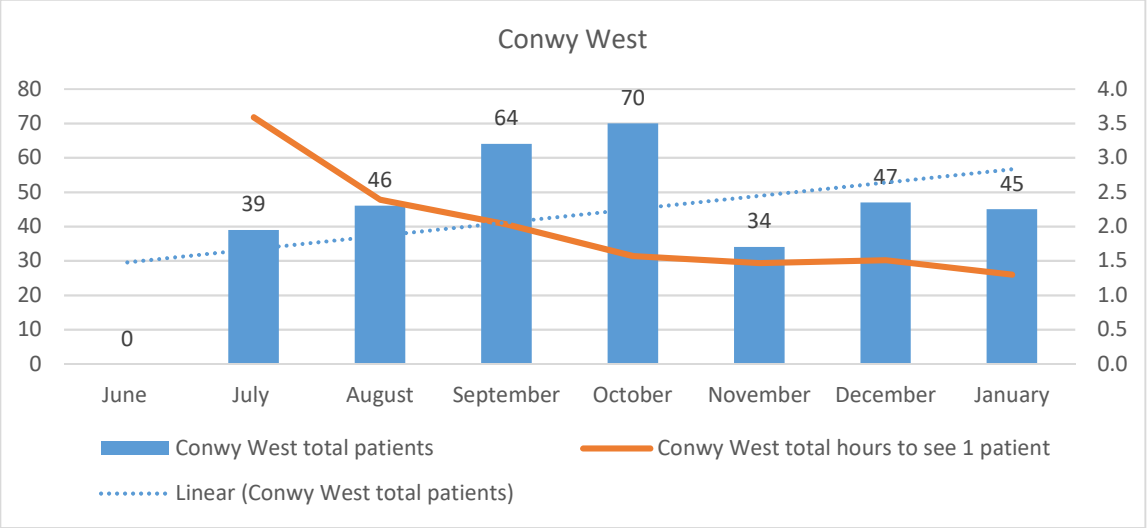
There were 2 APPs in Dwyfor. This Cluster saw the second highest total number of patients (n=680) which averaged at 85 per month overall. The month with the highest number of APP consultations was November (n=118) and the lowest was June (n=36). The trend line displayed an increase across the eight months.

There is a decreasing trend for time taken to see one patient from 1.9 hours in June to 1.2 in January (similar to the figure for Arfon). This figure may partially be accounted for by the rural geographic location of the Cluster, and that some patient and care/residential/nursing home visits may require significant travel. The trend of increased numbers of patients and reducing time to see patients is positive for Dwyfor.



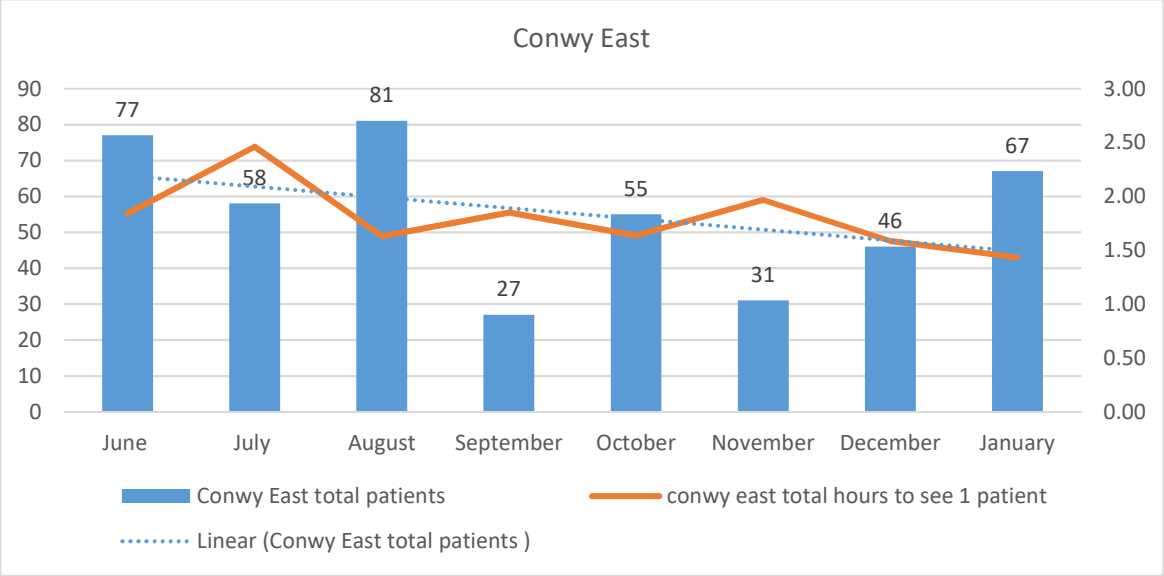
Conwy West

A total of 345 patients were seen by APPs, the lowest of any Cluster. There were two APPs undertaking home and care home visits, but data is missing for one APP from November onwards. Both APPs submitted activity between July and October making it difficult to compare the full range of months. The missing data reduces the average number of patients to 43 per month. Despite this, there was an increasing trend overall. During the months where both APPs recorded data, October saw the greatest activity with 70 patient appointments, there were fewest in July (n=39). In July the APPs were seeing the equivalent of one patient every 3.6 hours, which reduced to 1.3 hours in January and is similar to the figure for Dwyfor.



Conwy East

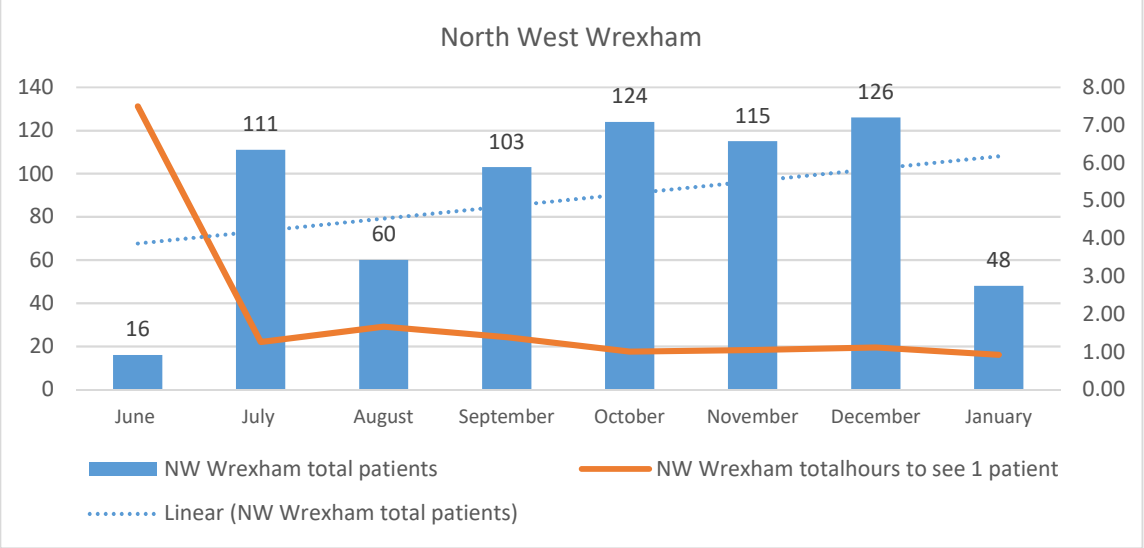
In Conwy East, APPs undertook 395 patient consultations, the third highest of all Clusters. There is data from two APPs from June to August and one APP for the remaining months. This reduced the average number of patients seen per month to 55 and makes it difficult to compare across the full range of months as the figures are not representative of actual activity. The APPs performed home visits until January when they started surgery clinics. Overall, there is a negative trend line in terms of activity, although there was an increase in number of patients seen from November. The month with highest overall activity was August (81) and lowest September (27). The time to see one patient has also decreased from 2.5 hours in July to 1.4 in January. This is a similar figure to Dwyfor and Conwy West.



North West Wrexham

The APPs in this Cluster saw the highest number of patients overall, 703 or an average of 88 across eight months between two APPs undertaking a mix of surgery clinics and home visits. Over 100 patients were seen each month in July and between September and December. The decrease in January was due to one APP taking annual leave and one APP being absent the whole month. December saw the highest activity, with 126 patient consultations, in contrast to June where just 16 patients were seen by an APP.

In North West Wrexham APPs were seeing one patient in 7.5 hours in June, this may have been due to induction and not representative of APP activity. This decreased to one patient every 0.9 hours (54 minutes) meaning APPs are seeing more patients per hour than APPs in the other Clusters.



Discussion

The most important item to recognise from the data is the significant contribution that the APPs have brought to Primary Care Clusters since the start of their rotation. In total, there were over 2,500 consultations. Data from NHS England found that in January 2020, only 52% of appointments in

general practice took place with a GP (NHS Digital, 2020), indicating a need for other healthcare professionals (such as APPs) to work alongside GPs in the Primary Care MDT. The practice GPs were recorded as providing over 420 hours of in-surgery supervision with APPs, which has been central to their learning and induction into Primary Care. The true figure to include informal discussions is likely to be considerably higher. GP supervision could potentially link to referrals back to the GP, as APPs who received higher hours of supervision tended to have lower levels of referral back to the GP. Although the percentage was low overall, ranging from 3.3% in Arfon to 8.8% in North West Wrexham

The general trend in the data shows that the APPs are seeing increasing numbers of patients per month and that time taken to see patients is reducing. This is likely due to the APPs becoming embedded into Primary Care as a new work environment, and increased confidence to manage a range of patients.

In line with this, hours of supervision by a GP has reduced, and slight increases can be accounted for such as the increase in Conwy East due to surgery clinics. This is significant as it indicates the APPs are bedding into their new work environment in Primary Care and have increased confidence in dealing with a range of patients, as outlined in their reflection. Cluster representatives also praised the APPs for their willingness to learn and how well they had adapted to Primary Care.

The mean average of 40.7% of consultations requiring a prescription, supports the need for Independent prescribing APPs in Primary Care to reduce burden on practice colleagues signing off requests. With the exception of Dwyfor, all APPs noted an increasing percentage of patients requiring a prescription. The increase coincides with the movement into winter months and could be down to higher demand due to seasonal illness. Seasonal illness may also account for the increased number of referrals to ED by APPs from September onwards. There was no particular overall pattern to the total number referrals to ACU/MAU/SAU, but variation between Clusters is likely to be due to service availability from hospitals in each locality.

The percentage of patients who did not require treatment is a measure which may need to be investigated further due to such wide variation in numbers and trends between the APPs in different Clusters. This measure may be open to interpretation and could be captured qualitatively, for example change to individual practice as a result of working as an APP in Primary Care.

There are some patterns in the data which cannot be explained from data trends alone and may be due to human factors, for example reduced activity in September, changes to percentage of patients needing a prescription and the decreased activity in Arfon Cluster. The most effective way to query some of these anomalies is likely to be qualitative one-to-one interviews with the APPs or WAST based members of the project team.

Looking ahead, it would be beneficial to review the data collected from the Clusters performing well (those improving on the measures outlined in this report) and share the learning with other areas. Identifying good practice will help identify an optimal model of implementation going into Phase II, and for future cohorts of APPs new to Primary Care. It may also identify potential areas for improvement in the coming months. In January, time to see one patient ranged from 0.9 hours in North West Wrexham to 1.4 hours in Conwy East. Although this figure has reduced since June, guidance recommends GPs and ANPs offer 15-minute appointments in Primary Care. An additional consideration is the Cluster and Primary Care data which found that almost two-thirds of APP appointments take place outside the surgery setting and that travel time needs to be accounted for.

As a consequence of reviewing data and identifying some of the limitations (such as more information required around the reasons for referral back to a GP), a new spreadsheet was developed. This was intended to capture data at patient level, streamlining data collection for APPs, improving efficiency and capturing more of the measures from the Primary Care section of the evaluation framework. The updated spreadsheet was in use from February 2020 and the project team aim to review the data over a longer time period and when APPs are fully established in Primary Care. This will help identify more significant trends between Clusters and over time.

Conclusion

This report provides a unique insight into a rotational model of Advanced Practice paramedics working between the ambulance service and five Cluster areas in North Wales. The aim of the project had been to address the viability of an extended rotational approach to the delivery of care using a WAST Advanced Paramedic Practitioner based in Primary Care.

Three elements of the evaluation framework have been described within the document: the impact on the APP, WAST and Primary Care and Clusters.

From an APP perspective, there is a reasonably high level of satisfaction with the role, particularly intrinsic factors relating to the job itself. APPs highlighted the importance of supervision to their induction in Primary Care, and the benefits of integrating with MDT colleagues. It also widened their clinical experience, giving APPs the opportunity to review and manage patients with a broader range of complaints. As would be expected when introducing a new service, there were some minor difficulties when the APPs first started in Primary Care which were soon overcome or resolved.

For Clusters and Primary Care, the APP increased capacity which released GP time to focus on complex patients. Good communication and integrated working between BCUHB, WAST, and Public Health Wales contributed to the successful implementation of the pacesetter project. Even at six months, staff recognised the benefits of having an APP in practices and how on a larger scale it could support sustainability of services. Each of the five Cluster areas are geographically diverse and have implemented the pacesetter using a different model of APP utilisation. Some areas had to take into account factors specific to their location such as rural communities and Welsh language service in Dwyfor.

Attempts to measure the quantitative impact of the APP rotation on WAST were challenging owing to the small number of APPs and relatively short time period spent in Primary Care. However, feedback from the APPs captured some of the qualitative benefits. These included improved confidence in autonomous decision making, additional clinical and leadership skills, and improved awareness of local services.

"A shift in my practice has occurred that has strengthened independent decision making achieving more autonomous decision-making status…"

"This networking has also transferred across to my WAST work where I have been able to use this knowledge to get appropriate care through accessing such services following 999 calls, where in the past through fear of missing something may have gone through to hospital just in case."

"Calibration of clinical assessment skills and development of clinical management skills have reduced my time spent at scene on 999 APP calls attended for WAST. My assessment of patients is more efficient and I am able to come up with safe effective management plans in a shorter time period [than] before the pacesetter project."

The quantitative data from Clusters and APPs was incomplete but it did provide a snapshot of some of the activity in Primary Care. The APPs provided a significant contribution to Primary Care, having undertaken over 2,500 patient consultations in their first eight months. Had full data been available it was projected this figure would have exceeded 2,900.

In the wider context, recent government publications such as NICE (2018) have advocated the use of advanced paramedics to provide and community alternatives to hospital care and undertake Primary Care roles alongside other allied health professionals. The findings from this project have demonstrated that APPs can successfully integrate into Primary Care, to create capacity and provide expertise as an additional member of the MDT. Using a rotational approach, the APPs benefit from acquisition of additional skills, and WAST benefits from minimal workforce depletion.

A great deal has been achieved in Phase I but there is further work to be done. As the pacesetter enters Phase II, there is an opportunity to learn from experiences during the first year and implement the necessary changes to demonstrate the full potential of this pacesetter as an exemplar of rotational paramedics working between the ambulance service and Primary Care.

Limitations

- The questionnaire had a low response rate; therefore the findings are unlikely to be representative of the overall views of those in the Cluster. In addition, the responses were mainly positive which may represent a bias whereby those who had a positive experience were more inclined to participate. The questionnaire was hosted by an online platform, so it was not possible to ask follow-up questions or probe respondents for further detail.
- As with the questionnaire, the focus group was not represented by all Clusters, the data from two missing Clusters may have provided alternative viewpoints as the model of implementation differs between the five Cluster areas.
- The Minnesota Satisfaction Questionnaire was only administered once. Had it been completed on different occasions it would have been possible to identify trends and potential changes over time.
- There was several months' worth of data missing from some Clusters and APPs which affects the ability to interpret true activity and trends for each Cluster. It is unclear whether the variation was due to data reporting errors, different interpretation of the measure by APPs or workload differences between the Clusters.

Recommendations for next steps

1. Surgery clinics - Feedback from Primary Care representatives indicated that it would be beneficial for APPs to consult patients in surgery clinics from the start of the rotation. It was found to provide APPs with exposure to a broader range of patients and clinical complaints than home visiting alone. However, it is important to maintain the home visiting service provided by APPs as it relieved pressure on surgeries by releasing GP time to focus on complex patients.

2. Implementation support - The implementation of Phase I was supported by extensive consultation between the project team, Clusters and Primary Care staff. Cluster representatives were satisfied with the implementation process, therefore it will be important to continue regular communication to support the implementation process in Phase II, particularly as there may not be the same level of input from PHW and WAST in future.

3. APP Whole Time Equivalent - There was some disappointment that each APP was only available to practices for two days each week. Clusters expressed an interest in continuing to work with APPs, to develop their role and expand the service in future. An increase in the number of APP WTE would potentially provide cover across the whole week in Primary Care.

4. Senior mentorship and support services - The APP reflections provided evidence of the positive impact of GP supervision. From a Cluster perspective, the experience was generally viewed as positive, but there was some APP reliance on GPs by APPs seeking reassurance. In a future model, this role may fall to experienced Primary Care APPs. Therefore, there must be a clear understanding of boundaries whilst maintaining patient safety.

5. Raise the profile of APPs in Primary Care - Feedback from the Cluster focus group indicated that patients were satisfied with the service once they had seen an APP, however more could be done pro-actively to raise awareness of their presence in surgeries.

6. Peer support – The social support from the education sessions had a positive impact on the APPs. Recent changes mean the education is likely to be delivered using a virtual platform for the foreseeable future. The project team and education providers need to ensure consequences of reduced peer contact are identified and mitigated where possible.

7. Data collection – One of the greatest areas of weakness in Phase I was data collection. In Phase II, there is a need for clear expectations and accountability with regards to activity data collection. Improvements have already been made to streamline the process for APPs and feedback may help improve this process for Phase II.

8. Wider impact - There has been strong focus on the impact for Primary Care in Phase I. Phase II seeks to understand the impact on WAST. The evaluation will focus more on the clinical contact centre and solo responding aspects of the rotation and skills such as leadership and autonomous working. From a Primary Care perspective, further work need to be done with patients, GPs and other healthcare professionals to gather the opinions of a wider range of individuals, and triangulate the evidence.

9. Dissemination - An initial literature review identified a lack of research around the APP role, particularly those working in Primary Care. The project team have developed a publication strategy and are keen to disseminate the findings from this report in paramedicine, Primary Care and emergency care journals in the coming months.

10. Train where you work - Some of the Cluster feedback, particularly from rural areas identified the “powerful” impact of the APPs conversing with patients in Welsh and how integrating culturally has the potential to improve continuity of care for patients. This provides support for proposed model of ‘train where you work’ so that APPs work in Primary Care area in the region they would ordinarily be based for WAST APP shifts.

References

Danna, K. and Griffin, R. W. (1999). *Health and Well-Being in the Workplace: A Review and Synthesis of the Literature*. Journal of Management, 25 (3), pp. 357–384.

Kinicki A.J., McKee-Ryan F.M., Schriesheim C.A., and Carson, K. P. (2002). *Assessing the construct validity of the Job Descriptive Index: a review and meta-analysis*. Journal of Applied Psychology, 87, pp. 14–32

Maben, J., Peccei, R., Adams, M., Robert, G., Richardson, A., Murrells, T. and Morrow, E. (2012). *Exploring the relationship between patients' experiences of care and the influence of staff motivation, affect and wellbeing. Final report*. Southampton: NIHR service delivery and organization programme.

National Institute for Health and Care Excellence. (2018). *Emergency and acute care in over 16s.* Available at: https://www.nice.org.uk/guidance/ng94. [Accessed 04/08/2020].

NHS Digital. 2020. *Appointments in General Practice January.* (2020). Available at: https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice/january-2020. [Accessed: 29/07/2020].

NHS England. (2016). *General Practice Forward view*. Available at: https://www.england.nhs.uk/wp-content/uploads/2016/04/gpfv.pdf. [Accessed: 14/06/2020].

Pennington, M.C., and Riley, P.V. (1991). *A survey of job satisfaction in ESL: TESOL members respond to the Minnesota Satisfaction Questionnaire*. University of Hawai'i Working Papers in ESL.10 (1), pp. 37-55

Primary Care One. (2020). *Pacesetters.* Available at http://www.primarycareone.wales.nhs.uk/pacesetters. [Accessed 29/07/2020].

Primary Care One. (2020a) *Betsi Cadwaladr University Health Board*. Available at: http://www.primarycareone.wales.nhs.uk/betsi-cadwaladr-university-health-board. [Accessed: 22/09/2020].

Reeves, R., West, E. & Barron, D. (2013). *Facilitated patient experience feedback can improve nursing care: a pilot study for a phase III Cluster randomised controlled trial*. BMC Health Services Research, 13, pp. 259

Turner, J., and Williams, J. (2019). *An Evaluation of early stage development of rotating paramedic model pilot sites*. Available at: https://uhra.herts.ac.uk/bitstream/handle/2299/21174/Rotating_Paramedics_Final_Report.pdf. [Accessed 04/08/2020].

UK Government. (2017). *Patient Group Directions*. Available at: https://www.gov.uk/government/publications/patient-group-directions-pgds. [Accessed 29/07/2020].

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.

Whalen, S., Goldstein, J., Urquhart, R. and Carter, A.J. (2018). *The novel role of paramedics in collaborative emergency centres aligns with their professional identity: A qualitative analysis*. Canadian Journal of Emergency Medicine, 20(4), pp. 518-522.