



New Ways of Working in Inverclyde HSCP

Evaluation of Pharmacists and Technicians in General Practice



Executive Summary

This report provides an initial evaluation of the investment in Prescribing Support Pharmacists (PSPs) and Technicians (PSTs) across Inverclyde Health and Social Care Partnership (HSCP) from April 2016 to March 2017.

Background

Prescribing Support Teams undertake a range of clinical and medicines management activities. Inverclyde HSCP is a pilot site for a test of transformational change (also referred to as *New Ways of Working*) to develop a model of efficient, effective and sustainable multidisciplinary team working in primary care. One of the *New Ways of Working* tested the provision of additional pharmacy resource to GP practices. The extra pharmacy support utilised clinical and independent prescribing skills to work directly with GPs to support care of patients and free up GP time.

Situation

The prescribing support role extension across all 16 HSCP practices includes pharmacist-led clinics and appointments, independent prescribing, review and authorisation of Acute Special Requests for prescribed medicines, review of Hospital Immediate Discharge Letters (IDLs) and Outpatient Letters.

The additional workforce was funded by a combination of finance from the Primary Care Fund and Prescription for Excellence. All Inverclyde HSCP existing and new prescribing support resources participated in the *New Ways of Working*.

The expanded team was recruited and initially trained, to supplement the existing capacity by August 2016. In total 12 Whole Time Equivalent PSPs and 4 WTE PSTs are in place to support the 16 GP practices in Inverclyde (population around 82,000).

Outcomes

Outcome measures have demonstrated that the pharmacy resource has successfully worked with GPs to support care of patients and has freed up GP time. According to GP views the most significant impact on improving quality of care was related to IDLs and monitoring of Disease-Modifying Anti-Rheumatic Drugs (DMARDs). The activities that freed up most GP time were related to IDLs and Acute Special Requests.

The four tasks below utilised around 50% of the pharmacist time with other activities particularly clinics and traditional prescribing support activities undertaken during the remaining time.

In relation to four key tasks (Discharge Letters, Outpatient Requests, Acute Special Requests and pharmaceutical issues) passed to PSPs and PSTs, a repeated two-week baseline and audit exercise identified 158 hours of GP time was saved per fortnight across the 16 practices. The time saved was approximately 50% of the baseline survey, which would equate to 90 standard patient appointment time slots per day, or 24,000 per year.

Due to the pharmacists' different skill set other benefits also accrued within these four key tasks. They approach Medicines Reconciliation and Acute Special Requests differently, undertaking additional checks, and have increased patient and interface communication. Anecdotal evidence indicates this led to numerous additional safety benefits.

Other clinical activities - An extract from GP systems shows substantial increases in the number of patients recorded as having contact with pharmacists and technicians, plus increases in the number and range of medication reviews and clinical interventions undertaken. In March 2017 alone, a total of 10,000 separate pieces of clinical activity were recorded by PSPs/PSTs. This included 1,600 medication changes and 1,100 recorded contacts with patients.

Patient feedback, following pharmacist clinic appointments, was favourable with 95% of survey respondents stating that they were happy or very happy with their appointment. There is significant evidence of improved quality of care and patient safety delivered over the course of the pilot.

Feedback received from GP practice staff was highly favourable, with increased clinical capacity, and improved morale, processes and access to pharmaceutical knowledge noted. Pharmacy staff also responded positively on the change.

New processes for Pharmacist Independent Prescriber electronic prescribing, Read coding of pharmacy activity and data analysis of an extract from clinical systems were also piloted.

Due to the increased time focussed on development of the pilot, clinical input and GP time saving work, less impact on prescribing efficiency measures has been demonstrated. Inverclyde HSCP efficiency indicators improved but are lower compared to average figures for NHS Greater Glasgow and Clyde.

Next Steps

Many of the newly recruited staff were new to primary care and required time and support to reach full capacity. This trend is borne out in the data which shows a steady increase in workload and decrease in time per task over the evaluated period.

As staff have only been in place for around nine months, local managers are reviewing the available information to further target and improve resource use. Following review and consideration, the following key developments will be taken forward during the next financial year:

- Balancing of clinical and cost efficiency focus, improving delivery of financial balance within *New Ways of Working*. The balance of PSP and PST patient-facing clinical roles, GP time saving work, patient safety and prescribing efficiencies will be developed.
- Skill mix optimisation - The PSP and PST roles will be further developed with PSTs focussed towards independent practice.
- Dissemination locally and nationally of good practice to support cluster working and reduce variation in practice.
- Evaluation – as this service has been available only for nine months, with volume of PSP / PST activity still increasing, evaluation requires continuation to allow the extent of the benefits to be seen. This will be undertaken via PSPs and PSTs Read coding activities and prescribing analysis.

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Introduction and Background

Prescribing Support Teams have an established role working within GP practices to undertake a range of clinical and medicines management activities. Scottish Government announced details of £16.2 million Primary Care Investment Funding for pharmacy on August 27th 2015.¹ The expectation was to recruit PSPs/PSTs to work directly with GP practices to support patient care and free up GP time. A specific objective was to tackle problematic demand issues in GP practices. To effectively support a reduction in GP workload, a targeted approach was taken. Alongside this investment, Inverclyde HSCP was identified to pilot the new GMS contract model for *New Ways of Working*. NHS GGC resource allocation for 2016-17 Pharmacists in GP Practices was £1.467m² inclusive of additional funding for the *New Ways of Working* pilot, of £400k. Another test of change involving an extended Minor Ailments Service pilot from Community Pharmacies in the HSCP, referred to as *Inverclyde Pharmacy First*, began in February 2017 and will be evaluated and reported separately.

Inverclyde HSCP serves a population of around 82,000³ and has 16 GP practices. According to 2015 information, 12 of the 16 practices are defined as *Deep End 100*, meaning they serve populations within the most deprived areas in Scotland.⁴ This population reflects the primary care investment criteria identified by Scottish Government. The population of Inverclyde HSCP has higher than NHS GGC average numbers of patients over 65 years, patients who are resident within care homes, and patients with various common Long Term Conditions. In addition, the HSCP shows higher prevalence rates than the national average in all collated disease registers. Inverclyde prescribing data shows higher volume of prescription items and higher cost per patient than the Board average.⁵

Additional PSPs and PSTs were recruited to join the existing team in Inverclyde HSCP by Summer 2016. The team utilises clinical and independent prescribing skills to work directly with GPs to support care of patients with Long Term Conditions, and free up GP time to relieve workload pressures. This pathfinder work will inform the way forward across the Board and the country.

In combination with existing staff, the recruitment has resulted in a total of 12 WTE PSPs and 4 WTE PSTs working across the 16 Inverclyde practices. To facilitate evaluation, practices agreed to:

- Consent to a data extract, covering specific information entered into practice IT systems by PSPs and PSTs. Full security and confidentiality processes were followed.
- Undertake three simple audits of specific activities targeted for PSP/PST support.
- Participate in two surveys of staff to understand their views and assist with distribution of surveys on satisfaction to patients.

The evaluation team have endeavoured to minimise the impact of the evaluation on all clinicians and practice staff.

¹ PCA (P) (2015) 16: [www.sehd.scot.nhs.uk/pca/PCA2015\(P\)16.pdf](http://www.sehd.scot.nhs.uk/pca/PCA2015(P)16.pdf)

² PCA (P) (2016) 2) [www.sehd.scot.nhs.uk/pca/PCA2016\(P\)2.pdf](http://www.sehd.scot.nhs.uk/pca/PCA2016(P)2.pdf)

³ ISD, 2016

⁴ <http://www.gla.ac.uk/researchinstitutes/healthwellbeing/research/generalpractice/deepend/about/>

⁵ ISD 2016

Clinical Impact

All 16 Inverclyde GP practices were provided with additional PSP/PST support according to agreed objectives and work plans for specific activities. On average each practice has an additional 0.5 WTE PSP and PST involvement. The role extension includes PSP-led clinics, Pharmacist Independent Prescribing, the authorisation and printing of Acute Requests for prescribed medicines, review of IDLs from Hospital and Outpatient Letters. Significant work was undertaken in the early stages of the pilot to develop the necessary systems and processes required for the new activities.

At present the practices are receiving PSP and PST input as follows:

Prescribing Support Pharmacists

- Pharmacist Level 3 Medication Review Clinics - Regular pharmacist-run face to face clinics with pharmacist independent prescribing in 15 GP practices.
 - Polypharmacy (3 clinics and 1 domiciliary service to housebound patients over 75)
 - Respiratory (12 clinics)
 - Pain Management (5 clinics)
 - New patients and ad hoc referrals (1 practice)
 - Care home patients (1 practice)
 - Other PSP face to face appointments are made in practices on an ad hoc basis
 - In the practice without a PSP clinic, telephone medication reviews are undertaken following referrals from the physiotherapist for pain management and for other ad hoc requests.
- Acute Special Requests input in 16 GP practices, including telephone contact with patients, face to face appointments for review if required, approval for ongoing supply, moving to repeat prescription with a re-authorisation date if appropriate, and issuing of prescriptions. This is discussed further [here](#).
- High risk medicines, management and monitoring, for example Disease-Modifying Anti-Rheumatic Drugs (DMARDs) in 14 practices and Direct Oral Anticoagulants (DOACs) in 3 practices. This is discussed further [here](#).
- Medicines Reconciliation in 16 GP practices, including Immediate Discharge Letters (IDLs) and Outpatient Letters, including if required, telephone contact with patients and liaison with Community Pharmacy to ensure accurate and safe prescribing. This is discussed further [here](#).
- National and NHS GGC prescribing indicators and audits.
- Medication enquiry answering in all 16 GP practices.
- The PSPs also participated in the successful pilot to develop electronic prescribing for pharmacist independent prescribers. During the 8 week pilot period (21st November 2016 to 13th January 2017), 640 patients across the HSCP received a pharmacist prescription. Electronic pharmacist prescribing is ongoing and has rolled out nationally.

Prescribing Support Technician

- PST-run clinics for blood glucose monitoring reviews are taking place in 16 GP practices.
- Unsupervised technician medication compliance reviews in patients' homes, following referral by Social Care. Between January and March 2017 the technicians dealt with 32

patient referrals for review and 25 medication enquiries from Social Care. PSP support is available when needed.

- Technician medicines management advice and staff training for Care Home Staff and Social Care Home Care Staff. Currently the technicians support 12 local Care Homes with ordering processes on a monthly basis. Recent training sessions have involved Blood Glucose Monitoring training to 2 Care Homes, Medication Administration Record sheet training to 3 Care Homes and 11 training sessions on Medicines Management to 73 Social Care staff.

Read Coding and Data Extraction

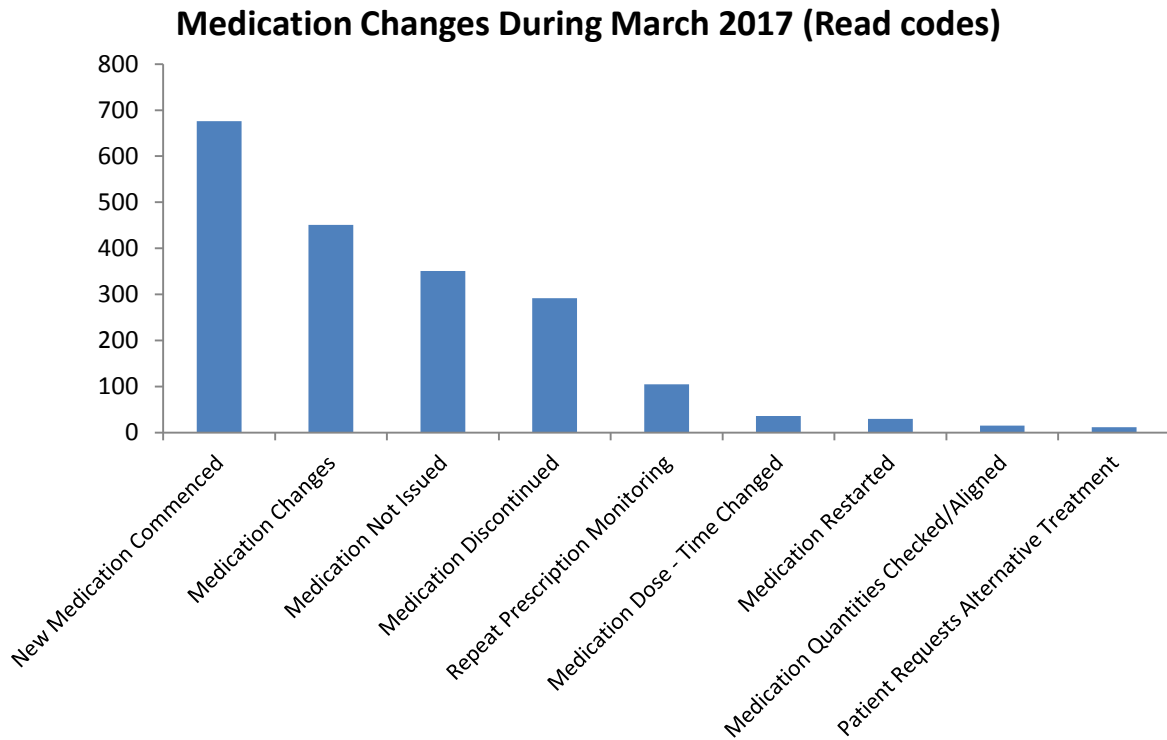
A system of Read coding by the PSPs and PSTs, followed by data extraction of their activity from GP Clinical Systems, is still under pilot and development to allow evaluation while minimising the time spent recording activities. The volume and range of activities undertaken and Read coded by the Team can be demonstrated by analysis of unique Read code patient counts. This is shown in a sample extract below from all practices # between April 2016 and April 2017. The charts overleaf provide further information.

Further development of the extract process is likely to reveal an increase in these figures.

PSP/PST Activities	Unique Read Code Patient Counts (Apr 16 – Apr 17)	
Acute Requests	29,093	49.5%
Discussion with/Referral to Health Care Professional	2,304	3.9%
DMARD Monitoring	1,701	2.9%
Medication Changes	12,726	21.7%
Medicines Information Query	544	0.9%
Medication Review via Clinics	2,354	4.0%
Medicines Reconciliation	1,359	2.3%
Patient Given Advice	3,399	5.8%
Prescription issued by Pharmacist Independent Prescriber	941	1.6%
Telephone Calls to Patients *	4,366	7.4%
Total	58,787	100%

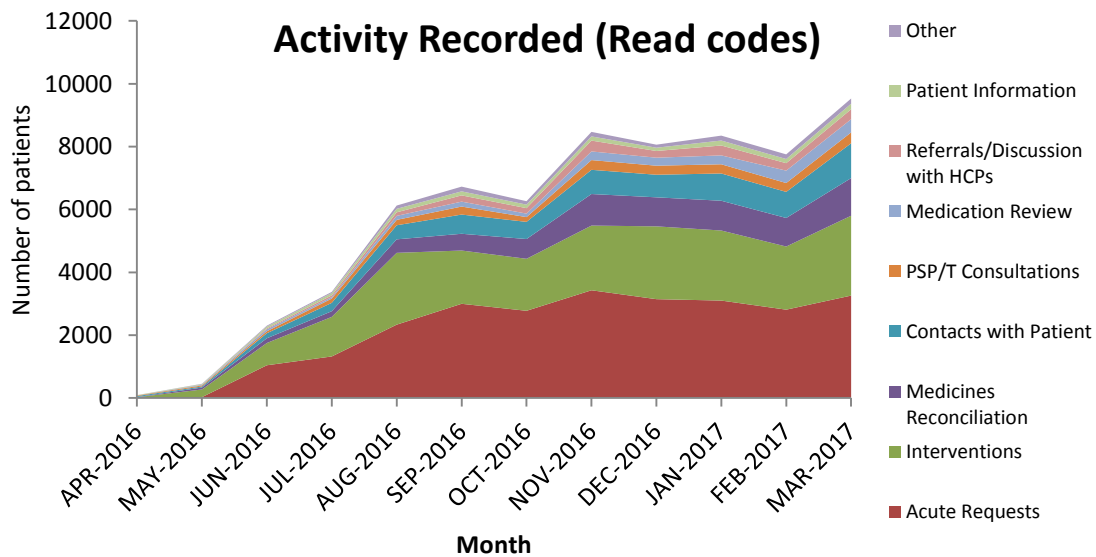
* Telephone calls to patients cover a range of activities, from quick checks on medicines for example during the medicines reconciliation process to detailed reviews of care. Further, more detailed information may be available in the future as information extraction processes develop.

The range of Medication Changes in the data extract for April 2017 is shown below. The scale of new medications commenced will be due, in part, to the focus on IDLs and Outpatient Requests.

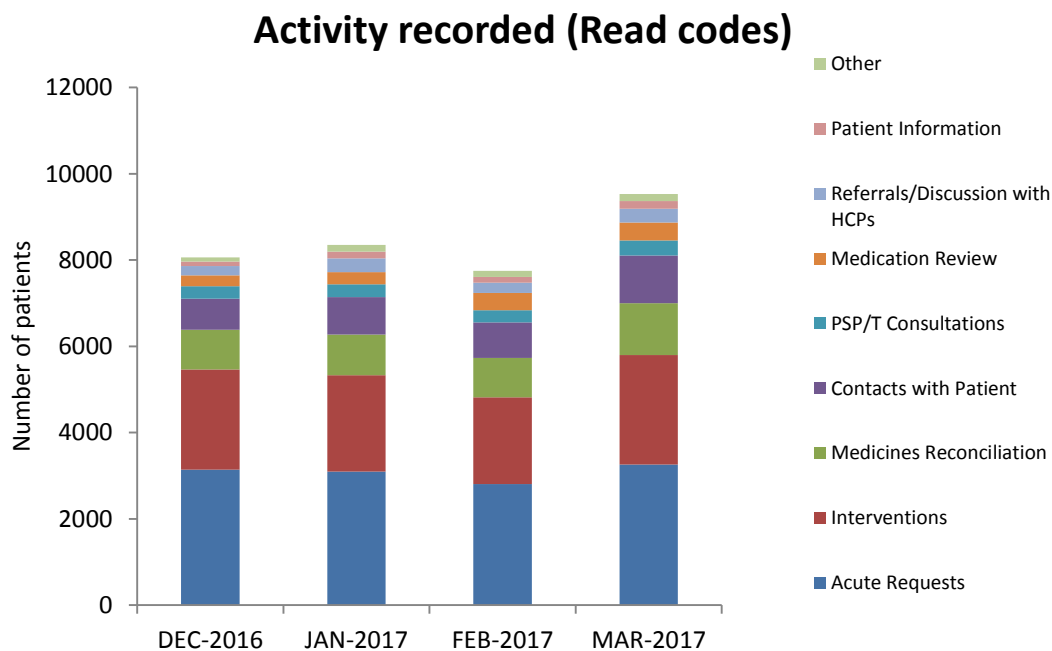


The graph below from the extract of GP practice systems shows substantial increases in the volume of activity and number of patients recorded as contacted by PSPs/PSTs since the start of coding by prescribing support in April 2016, and the building of the new roles within the service. The graph illustrates that the volume of activity is still increasing.

The *Interventions* line includes areas such as advice, medication changes, monitoring and prescriptions. *Consultations* include clinics and work on DMARDs.



The graph below further illustrates the respective volumes of work over the last four months. Volume continues to increase, with Acute Requests, Interventions and Medicines Reconciliation making up the bulk of the workload. The dip in February is attributed to fewer working days. It should be noted that it is early days for the evaluation of *New Ways of Working* using extracted Read codes and activity information from the clinical system, and this will be further developed over the next year.



Prescribing Data Analysis - October to December 2016

The Prescribing Team are continuing to work on improvements in safety, clinical and cost effectiveness of prescribing. The data table below demonstrates HSCP level improvement in a number of important prescribing areas. NHS Greater Glasgow and Clyde has developed a large suite of data indicators, the small selection presented here focuses on key local and national priority areas. The indicators now and in future are increasingly informed by the availability of patient level information as prescribing expenditure is only related to *treated patients* rather than the total population.

The indicators below are closely related to the clinics undertaken by PSPs/PSTs, such as Respiratory, Pain, Diabetes and Polypharmacy. They also include patient safety measures, for instance NSAID and respiratory indicator interventions actioned, when dealing with Acute Special Requests. Improvements may be shown as an increase or decrease depending on the indicator.

Strategic Focus	Prescribing Indicator	Median Oct-Dec 15	Median Oct-Dec 16
Safety/Diabetes	Patients prescribed insulin but not prescribed self-monitoring blood glucose testing strips as a % of all patients prescribed insulin	19.60%	17.52%
Efficiency/Diabetes	Preferred list blood glucose test strips as a % of all blood glucose test strips	0.52%	17.64%
Safety/Respiratory	High Strength Corticosteroid Inhalers as a % of all Corticosteroid Inhalers	35.30%	30.97%
Safety/Respiratory	Patients prescribed >12 SABA inhalers per annum as a % of all patients prescribed SABA inhalers	5.54%	4.94%
Safety/Mental Health	Antipsychotic prescribing to people aged ≥ 75 Years	3.47%	3.28%
Safety/Chronic Pain	Strong Opioids (including tramadol products) (DDDs per 1000 weighted list size per day)	18.27	17.19
Antibiotics	4C Antibiotics (items per 1000 list size per 100 days)	14.79	13.96
Efficiency/Chronic Pain	NSAIDs (DDDs per 1000 weighted list size per day)	37.60	33.44
Safety/Polypharmacy	NSAID prescribing to people aged ≥ 65 years concurrently prescribed an ACE inhibitor/ angiotensin receptor blocker and a diuretic	5.41%	5.24%
Safety/Polypharmacy	NSAID prescribing to people aged ≥ 75 years without gastroprotection	21.54%	20.00%
Safety/Polypharmacy	NSAID prescribing to people aged ≥ 65 years concurrently prescribed aspirin/clopidogrel without gastroprotection	0.75%	0.46%
Efficiency/Safety Wound Management	Antimicrobial Wound Products as a percentage of Total Wound Products (items)	14.20%	13.69%

Prescribing Cost Efficiency and Quality Indicators

The table below details changes in prescribing cost efficiency across the Board and the HSCP.

Location	Oct – Dec 15	Nov 16 – Jan 17	% Shift
Cost per weighted patient			
NHS Greater Glasgow and Clyde	£44.63	£44.22	↓ 0.92%
Inverclyde	£48.06	£49.42	↑ 2.83%
Cost per treated patient			
NHS Greater Glasgow and Clyde	£85.67	£86.62	↑ 1.11%
Inverclyde	£88.86	£91.69	↑ 3.19%

Given the demographic of Inverclyde HSCP, as discussed in the introduction, a higher cost per treated patient is to be expected. The difference in percentage shift may be attributed to the shift in focus of the team towards releasing GP capacity and undertaking direct clinical care. The team having less time to focus on delivery of work-plans associated with specific identified prescribing efficiencies.

The table below details changes in three key quality indicators across the Board and the HSCP.

Location and Indicator	Oct – Dec 15	Nov 16 – Jan 17	% Shift
Preferred List Respiratory Inhalers as a % of all Respiratory Inhalers			
NHS Greater Glasgow and Clyde	89.5%	90.63%	↑ 1.13%
Inverclyde	86.16%	86.62%	↑ 0.46%
Patients prescribed >14 Inhaled Corticosteroid Inhalers (ICS) as a % of patients prescribed ICS			
NHS Greater Glasgow and Clyde	5.09%	5.17%	↑ 1.54%
Inverclyde	5.52%	5.45%	↓ 1.28%
Preferred List Blood Glucose Test Strips as a % of all Blood Glucose Test Strips			
NHS Greater Glasgow and Clyde	0%	39.29%	↑ 39.29%
Inverclyde	0.52%	25.15%	↑ 24.62%

The information demonstrates that the HSCP has seen improvements in each of these areas. The rate of improvement has been less than that of the wider Board for the formulary compliance indicators, with a better performance seen in the clinical indicator. This can be attributed to the shift in focus to more direct clinical care. Local managers will, over the next year, seek ways to further align work objectives to deliver an appropriate balance of clinical care, releasing capacity of GPs and to deliver necessary cost and quality improvements.

Balance of PSP/PST time

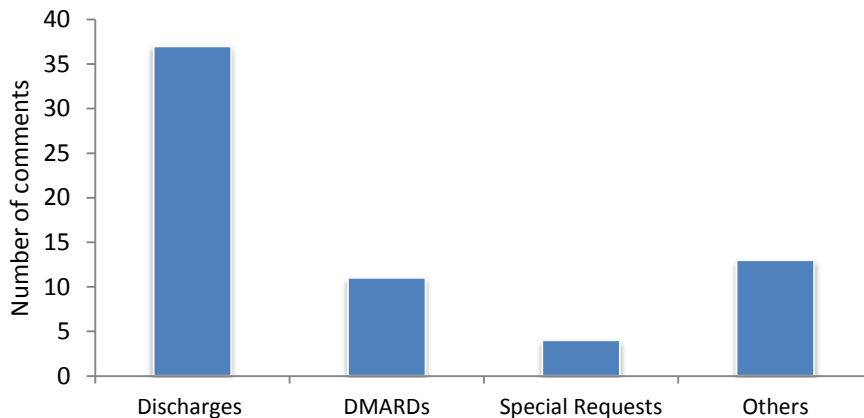
The team have sought to achieve a balance in approach, with PSPs and PSTs undertaking a combination of direct clinical care for patients (such as clinics), releasing GP capacity (such as Acute Special Requests) and working on medicines management and prescribing efficiencies. GPs have generally been supportive of this balance and the ongoing development of clinical skills. The team have fitted their work practices according to the culture of each practice. For example:

“Practices assign clinics in different ways. Some offer PSP appointments to patients, others directly assign patients. Clinics often involve a structured review of medicines, their efficacy and any changes. PSP appointment slots are generally longer than a GP appointment, for instance 30 minutes for a pain clinic. This can still be challenging for a patient with significant polypharmacy”. - PSP, Inverclyde

Practice Staff Views

Further evidence of impact was provided by GP practice staff. Two surveys were carried out; a full report is available [below](#). The second survey (March 2017) asked staff to consider *which activity (undertaken by PSPs/PSTs) had improved clinical care the most*. The chart below highlights the work on discharges and DMARDs as having a significant impact on quality of care.

GP Practice staff comments on improving quality of care



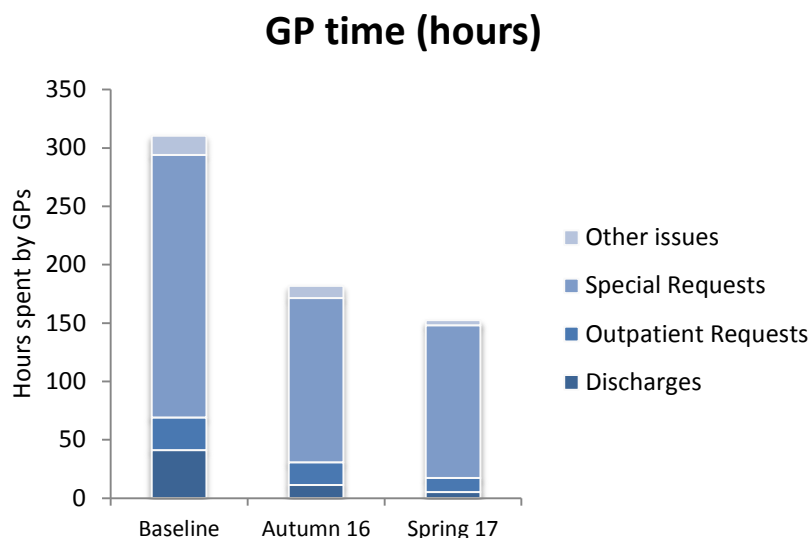
“The addition of a pharmacist has been a tremendous support to the practice, improving prescribing safety, efficiency and adherence to guidance. Furthermore, their specialist input to many ad hoc challenging prescribing issues is truly valued.” – GP, Inverclyde

GP Time Released

One of the key drivers of this pilot was to release GP capacity. In order to evaluate the impact, three audits were undertaken; focussing on the time GPs spend on four key tasks:

- **Immediate Discharge Letter (IDL)** - a document containing information on a patient following an inpatient stay. GP records must be updated with any changes to medication which have been made and clinicians must ensure that the changes are appropriate based on the information held by the practice.
- **Outpatient Request** - a request for the GP practice to prescribe something initiated or recommended by an outpatient clinic.
- **Acute Special Request** - an prescription created by a clinician within the GP practice where another issue of that medicine has been requested by the patient without a GP appointment.
- **Other medication issue** - such as shortages of medicines caused by manufacturing/supply issues and community pharmacy queries.

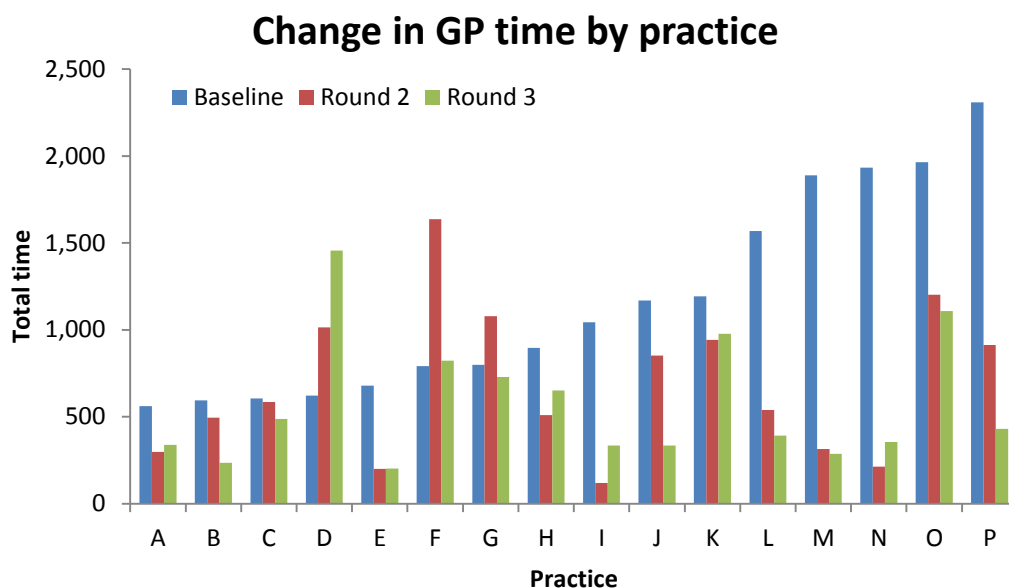
The baseline audit was carried out in Summer 2016 with all 16 practices, with two follow up exercises in Autumn 2016 and Spring 2017. Each audit comprised a **two-week period**. The chart below provides a summary of the audits, detailing the time spent by GPs on these tasks:



A number of key points should be noted:

1. The maximum opportunity to release time from baseline information on these tasks amounted to **310 hours per fortnight which equates** to 4 WTE GPs across the 16 practices.
2. Work on Special Requests represented around 72% of the opportunity.
3. The second audit indicated a reduction in GP workload of 41%, from the baseline.
4. The third audit showed a **reduction in GP workload of 51% or 158 hours**, from the baseline.
5. Activity (volume of these tasks) across the audit periods was comparable.
6. These tasks required around 50% of total PSP/PST time, albeit with significant variation between practices, and accounts for only part of the work undertaken. It does not include PSP clinics whose patients would previously have been seen by GPs, nor work on prescribing indicators.

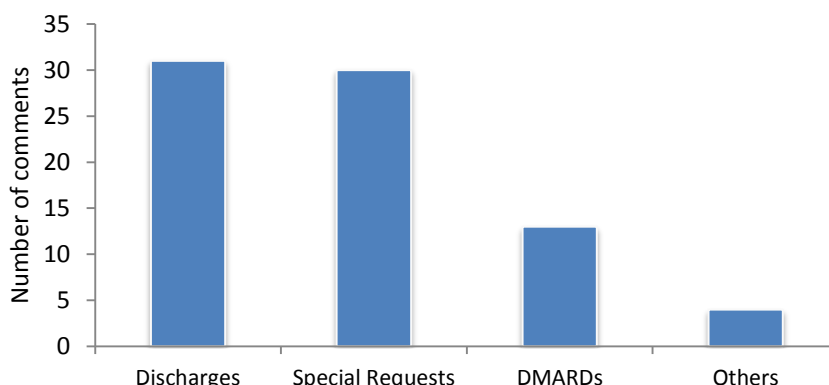
The information can be further broken down by GP practice:



The chart demonstrates that, there are fluctuations in the pattern of reductions, due to issues such as annual leave, sickness and routine fluctuations in workload. It should also be noted that there are variations in prescribing support in different practices due to the differences in the GP stipulated requirements within the objectives for the additional prescribing support.

Further evidence of the improvement in these areas is provided by the survey of GP practice staff (a full report is [below](#)). The second survey (March 2017) asked staff to consider *which activity (undertaken by PSPs/PSTs) had freed up the most GP time*. The chart below demonstrates that the work on Discharges and Acute Special Requests has had a significant impact on the practices.

GP practice staff comments on releasing capacity

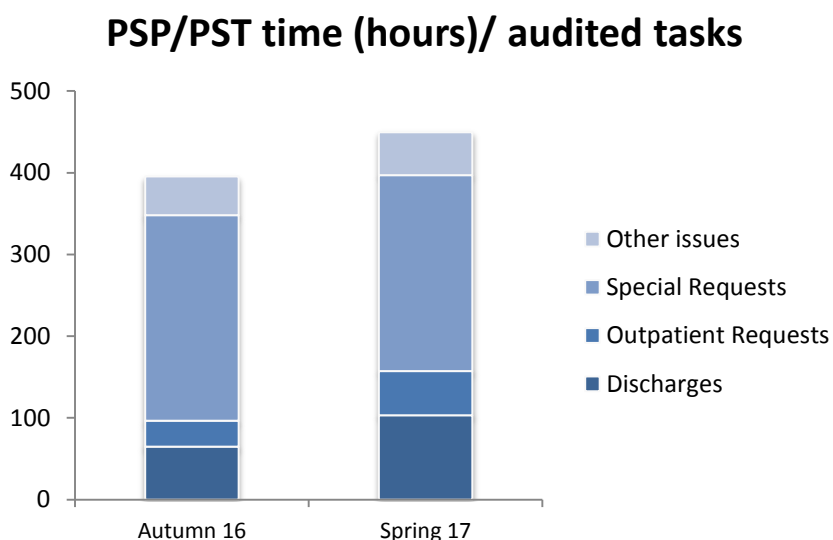


“Having pharmacy staff in primary care is an invaluable asset to the practice that has improved patient safety, reduced GP workload and improved the efficiency of the prescribing process. I don't know how we managed before we had them!” – GP, Inverclyde

Use of Pharmacist and Technician Time

PSPs and PSTs were asked to conduct the same audit as GPs into the four key tasks: Immediate Discharge Letters (IDLs), Outpatient Requests, Acute Special Requests and Other issues. As the goal was to evaluate the impact of the change, PSPs and PSTs were not involved in the Summer 2016 baseline, however they undertook the second and third audits concurrently with the GPs.

The chart below demonstrates the use of their time, along with the increase noted between audits. Each audit comprised a **two-week period**.



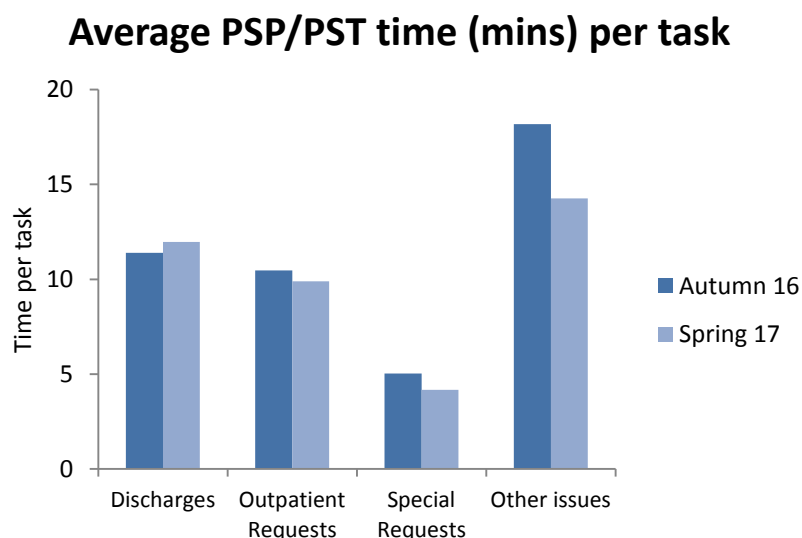
Total activity across the audit periods was comparable with Special Requests activity representing around 53% of the workload by the audit in Spring 2017. The additional 55 hours spent by the second audit can be attributed to successful recruitment, training and development of new staff.

“A Special Request from the Outpatient Skin Clinic arrived, including six different creams to be provided to a patient. The pharmacist looked within the Clinical Portal system, noting that the outpatient letter contained only 3 creams, the others having been given directly by secondary care. Through this investigation, the pharmacist was able to reduce work for the team, who would have had to follow up, and ensure the patient received appropriate care.” - PSP, Inverclyde

Pharmacists have a different skill set to medical practitioners and as a result approach Medicines Reconciliation and Acute Requests differently, providing additional checks. This potentially can lead to numerous safety benefits and has been highlighted as an important aspect of the pilot.

A greater range of clinical checks is delivered: following up monitoring; prescribing frequency; and reviewing suitability of other medicines. There have been benefits to practice systems and processes. An example is when a blood monitoring issue was picked up for one patient as it led to a review of all patients in the GP practice on this medicine. A more managed approach to Acute Special Requests has led to some medicines, such as antidepressants, in some practices, being moved to repeat prescription with a reauthorisation date. The pharmacists also spend more time communicating medication changes with patients and community pharmacy colleagues.

Although this contributes to a greater average time spent per task, it does provide clinical and safety benefits, including potential reductions in medication-related admissions. The average time per task for PSP/PSTs has reduced over the four to five months between audit cycles, most significantly within Special Requests where a 20% reduction was seen. This is likely to be related to development of familiarity and confidence with the activity.



A recent Cochrane study demonstrated that non-medical prescribers, such as pharmacists, achieve similar health outcomes to GPs through prescribing.⁶ For this report, surveys were conducted with practice staff which reiterated position. The following outcomes are pertinent:

- 98% of respondents (63) stated that they agreed that there has been an improvement in the **quality** and **efficiency** of Medicines Reconciliation work in their practice.
- 89% of respondents (63) stated that they agreed that there has been an improvement in the **quality** and **efficiency** of Acute Special Requests work in their practice.

“The pharmacy support has been invaluable. Attention to detail, especially medicines reconciliation when patients are discharged from hospital, has enhanced clinical care” – GP, Inverclyde

Another significant piece of work has been the management of patients receiving DMARDs. These drugs are effective, but have a high risk of side effects and require monitoring, particularly blood tests. The medicines are generally started in secondary care, and throughout the monitoring process engagement with hospital clinicians is required. Pharmacists are currently undertaking this work in 14 of the 16 GP practices, and this has been highlighted as an important aspect of the pilot in improving patient safety as well as freeing GP time. It is notable that according to the IT extract, pharmacists have undertaken 1,700 DMARD clinical interventions since April 2016.

“DMARDs monitoring has improved as has patient education due to the pharmacist stressing the importance of bloods before the prescription is issued.” – Practice Manager, Inverclyde

⁶ Weeks Et Al, Non-medical prescribing versus medical prescribing for acute and chronic disease management in primary and secondary care, 22/11/16

Funding Detail

Additional funding has been provided by Scottish Government Primary Care Fund and Prescription for Excellence to facilitate the *New Ways of Working*. This is in addition to the existing funding for PSPs and PSTs within Inverclyde HSCP, provided through previous successful *invest to save* programmes.

Existing Funding Amount (per annum)	Staffing
£172,500	4x AFC Band 8a PSPs
£36,000	1x AFC Band 6 PSTs
£27,500	1xAFC Band 5 PSTs
Additional Funding Amount (per annum)	Staffing
£345,000	8x AFC Band 7 PSPs
£55,000	2x AFC Band 5 PSTs
TOTAL FUNDING - £636,000	

*inclusive of on cost

For awareness, further costs were incurred for training and induction of new staff plus an increase in administrative/management work which although difficult to quantify should not be ignored.

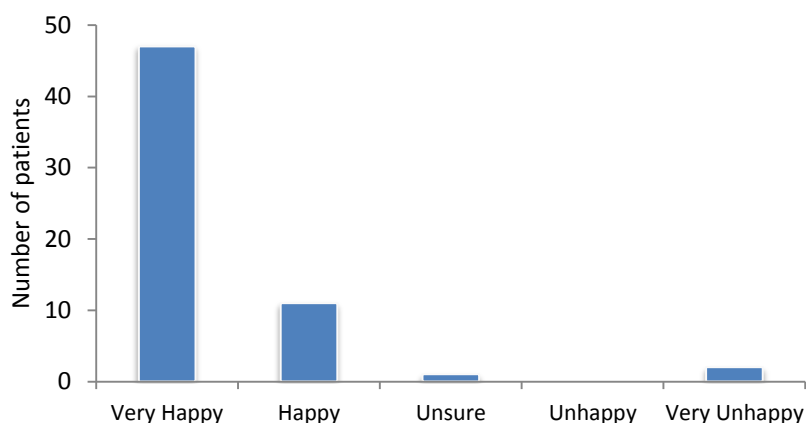
In relation to four key tasks (Discharge Letters, Outpatient Requests, Acute Special Requests and pharmaceutical issues) passed to PSPs and PSTs, a repeated two-week baseline and audit exercise identified 158 hours of GP time was saved per fortnight across the 16 practices. The time saved was approximately 50% of the baseline survey, which would equate to 90 standard patient appointment time slots per day, or 24,000 per year (based on 10 minute appointments).

Importantly, the trends and local intelligence indicate that PSPs will continue to reduce the time taken to undertake functions that release additional capacity to allow GPs to perform more complex medical interventions. PSTs have subsequently become more involved in dealing with Acute Special Requests and a list of medicines suitable for PST authorisation is in operation within some practices. Planned expansion of the PST role will likely provide a further improvement in time efficiency and prescribing savings.

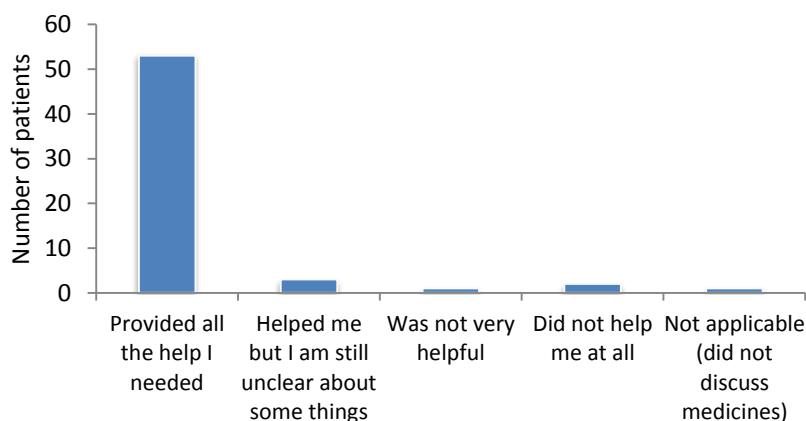
Patient Views

A key part of evaluating the service includes understanding the views of patients. In partnership with the NHS GGC Clinical Governance team, patients were offered the opportunity to complete a simple questionnaire (either on paper or online) following contact with a pharmacist. A total of 62 patients responded to the survey over a six month period. The gender split was roughly equal and the median age of respondent was 63. The charts below provide detail:

How you feel about your appointment



How the appointment helped with your medicines



The charts show that the overwhelming majority of patients were happy with their appointment. The responses indicate that patients have a very favourable view of the service.

Safety and Quality Benefits

Whilst not all benefits of the change are strictly quantifiable, it is important to understand the narrative of this improvement.

Safety Issues Identified

The team identified and acted upon a significant number of patient safety issues over the course of the evaluation period. Many of these have included the detection and addressing of patient medication monitoring issues. Significantly, on some occasions this has led to groups of patients having a medication review. Five of these are described below to provide a flavour.

Patient Safety Case Studies

An outpatient discharge request for a patient to start two cardiology medicines was received by the PSP. On reviewing the patient's record, it was found that the prescription would amount to a potentially dangerous combination. The pharmacist made contact with Secondary Care, resulting in an amended and appropriate prescription.

On reviewing a patient's medicines, the PSP noted that a liver function test had not been carried out despite the patient taking a medicine which has the potential to cause liver damage. The test was subsequently ordered. On further investigation, the processes in the practice were improved to ensure this medicine is prescribed safely on an ongoing basis for all patients receiving it.

On reviewing an IDL, the PSP noticed that the patient had been prescribed 50 micrograms per day of a blood pressure medicine. From experience, the PSP was aware that this dose is not available in the community and the tablet would have to be manually halved. The patient was not aware of this and reported feeling breathless. Following consultation with the GP, the PSP arranged for a new prescription and for the community pharmacy to halve the tablets before dispensing.

An elderly patient had her warfarin stopped following a fall, but no reason for this was documented on her discharge. On phoning the patient, she was about to restart the medicine which could potentially have caused a significant safety risk. The PSP advised the patient not to restart and arranged an urgent medication review.

Following review of an acute request for a medicine for diabetes, the patient had had one episode of thrush and a urinary tract infection since the medicine was commenced. In addition, her kidney function test showed a lower than recommended level, and therefore the medicine was contraindicated. The medication was not issued and the PSP discussed the issue with the GP who agreed the medication should be stopped and the patient contacted for further review.

Local processes have also benefited from improved safety and management.

“On medicines reconciliation, a more thorough, efficient process is now established with detection and follow up of inaccurate and at times inappropriate prescribing (from secondary care and primary care) which GPs would not necessarily detect. Overall this has added to increasingly safe prescribing and saved GPs considerable time.” – GP, Inverclyde

Local Resilience

In late 2016, a GP practice experienced a significant GP resource shortage. Due to ongoing national and local challenges around availability of GP Locums, the pharmacy team were able to provide additional prescribing support, focussing on acute items. This ensured continued provision of important clinical care to the practice population.

“It is difficult to measure the "can I just ask?" data, but it has been very valuable to have another person to discuss complex prescribing, or to act as a sounding board when a patient is likely on optimal treatment. As GPs we often work in professional isolation, and even in a busy training practice, it can be useful to "run something past" a member of the pharmacy team. Without doubt, patient continuity of care has been enhanced, and with difficult/demanding patients, the support in sharing the care has been valuable.” – GP, Inverclyde

GP Practice Staff Expectations

Colleagues working in GP practices were asked for their initial views on the pilot in early summer, 2016. A total of 36 responses were received, broken down to the following staff groups:

Makeup of Summer 2016 GP Practice Survey Respondents	
Staff Group	Number of Responses
General Practitioners	18
Practice Managers	10
Others	8

Feedback was overwhelmingly positive from all staff groups:

Responses to Summer 2016 GP Practice Staff Survey	
Question 1 - In general, how do you feel about your practice having more Pharmacist and Pharmacy Technician input?	
Response	Number
Very Positive	32
Mostly positive	4
Undecided	0
Mostly Negative	0
Very Negative	0

Practice staff were asked to consider benefits to patients, the practice and the staff personally. There was an emphasis on the impact for **releasing time and increasing capacity**, with this seen as the key benefit. Of the 292 positive comments submitted, 161 (55%) related to increased capacity. There were also a significant number of comments on the **improved or expedited processes** (for instance medicines reconciliation) expected, **improved quality of care** or **increased safety** and the value of **increased pharmaceutical knowledge** within the practice.

Staff reported comparatively few potential issues from the work. The same opportunity for raising concerns was offered as for benefits, but where 292 positive comments were received, only 65 challenges were raised. Of those, 8 related to short term *teething problems* with the change itself. However, 16 concerns were raised about *increasing an element of workload*. The outcomes from the second survey are overleaf, suggesting this concern did not materialise.

The comments below provided by respondents give a flavour of the enthusiasm for the pilot:

Quotes from Summer 2016 GP Practice Staff survey

“I fully support this initiative. It would appear to have great potential in improving patient care.”

“The more support our GPs have to continue the important work of patient care the better.”

“I see this as a very positive step forward in primary care for practices, patients and pharmacists whom I believe as a profession are underutilised in NHS Scotland.”

“I think it is all very positive for both the practice and the pharmacists as it will develop the pharmacist role and improve the GPs’ working day.”

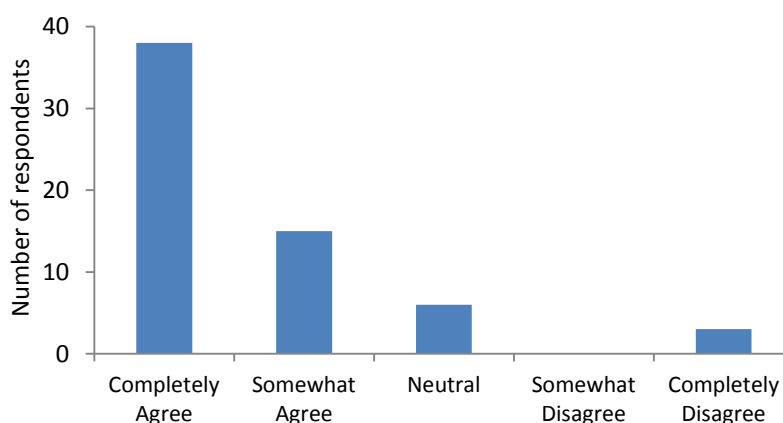
GP Practice Staff Response

A second survey of GP practice staff was undertaken in Spring 2017. The survey was designed to draw out the key benefits and concerns from the pilot. On this occasion, 63 responses were received:

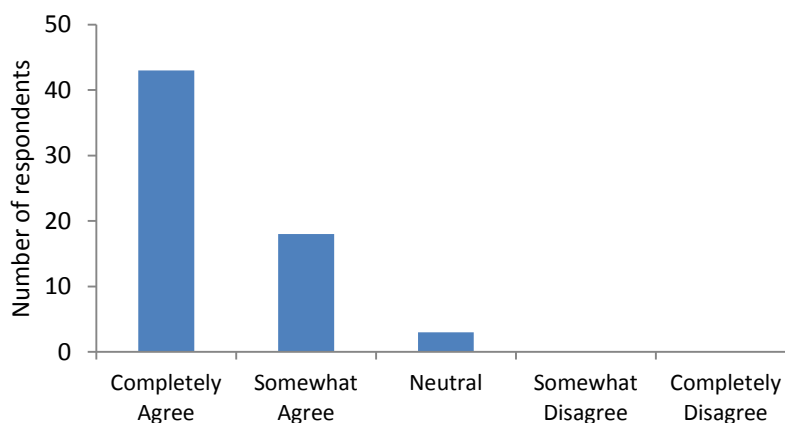
Makeup of Spring 2017 GP Practice Survey Respondents	
Staff Group	Number of Responses
General Practitioners	35
Practice Managers	10
Others	18

The response was overwhelmingly positive, as the charts below demonstrate:

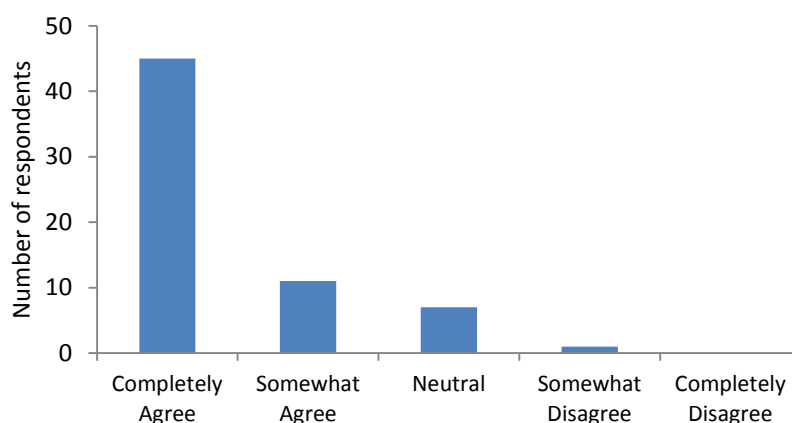
Clinical capacity in my practice has increased



Particular practice processes have been improved

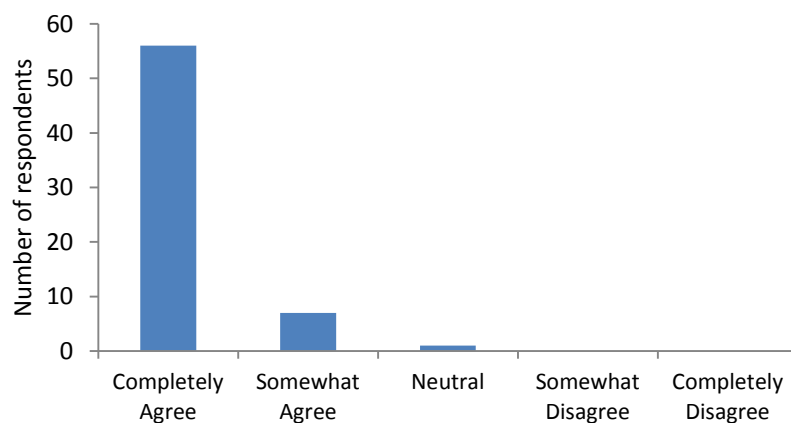


The change has improved morale and/or reduced stress in my practice

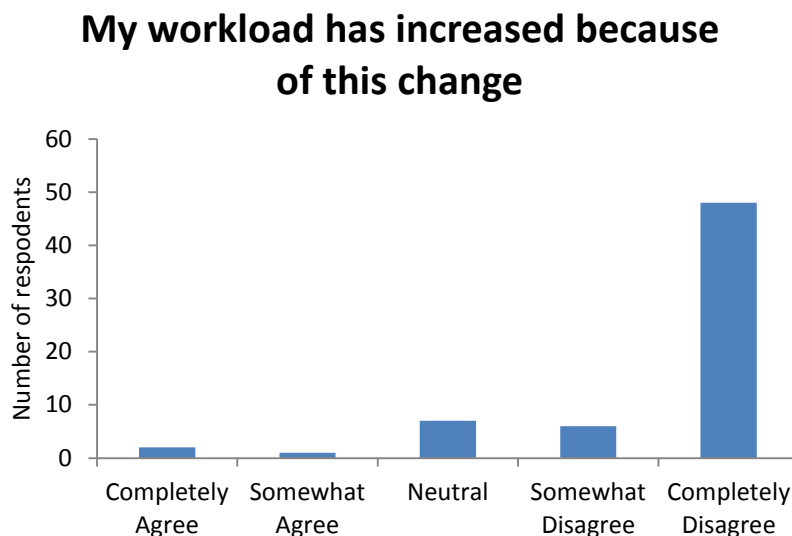


“The pharmacists do not only help the GPs in the biggest way possible, they also help the practice nurse offering prescribing advice. All of this just makes for a nicer less stressful day for everyone involved in the prescribing process for patients.” – Practice Manager, Inverclyde

PSPs/PSTs have provided valuable pharmaceutical knowledge



In the first survey (Summer 2016), some respondents noted concerns regarding increased workload. The chart below demonstrates that this has very rarely been the case.



Staff were offered the opportunity to highlight areas which have been of less benefit to their practice. While this did highlight a few issues which the team will use to inform developments, the majority of the comments related to aspects of pharmacy skills which have not yet been applied within the individual practice.

Quotes from within the survey have been included throughout this report. A further selection is provided here:

“Prior to the pilot I was considering leaving General Practice as I had been feeling so burnt out and felt like I could not do my job safely. The Pharmacist Support has improved things greatly and whilst I still work extremely hard I feel safer. Please, please, please continue this support.” – GP, Inverclyde

“The pharmacists in practice have become very valued and frankly essential members of the team. They have freed up a great deal of clinical time, have become a handy resource for all manner of queries and requests and have made things safer for patients. I think that losing this service would be a great loss not only to this practice but to Primary Care in general.” – GP, Inverclyde

“This has made the single biggest difference to my workload of any changes made to date” – GP, Inverclyde

“Overall the practice has benefitted greatly from the support and knowledge of each PSP. Their work around IDLs, acute requests and medication reviews has freed up GP time significantly”. – Practice Manager, Inverclyde

Conclusions

The following high level conclusions can be drawn from the pilot period:

1. The investment delivered significant savings in GP time as per the goals of the Primary Care Fund policy, and demonstrated that PSPs/PSTs can provide this benefit in an efficient manner. PSP and PST activity has increased significantly over the period and is now embedded.
2. Managers delivered a balance of time for PSPs/PSTs, allowing them to develop the patient-facing, clinical role whilst freeing GP capacity, per the goals of Prescription for Excellence.
3. Feedback from patients, GP practice staff and the team itself was highly favourable. A number of improvements to safety and quality of care were noted.
4. A process of Read coding and extraction of Prescribing Team activity has been implemented.

Following this initial review, the following will be taken forward during the next financial year:

1. Further optimising the balance of clinical roles with releasing GP capacity and delivering prescribing efficiencies.
2. Skill mix modification as the PST role further develops to include independent practice.
3. Coordination of the sharing of best practice, particularly around benefits to patient safety, quality of care and practice processes.
4. Continuation of evaluation to assess longer term impact on GP workload and associated benefits as the pharmacy team is embedded into practices.
5. Further analysis of activity by PSPs and PSTs to support improved service delivery.

Authors and Key Contributors

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Glossary of Terms

4C Antibiotics - Clindamycin, cephalosporins, co-amoxiclav and ciprofloxacin. Antibiotics associated with higher risk of *C.difficile* infection

DMARD - Disease-Modifying Anti-Rheumatic Drugs

DOACs – Direct Oral Anti-Coagulant

GMS Contract – General Medical Services Contract

HSCP – Health and Social Care Partnership

IDL – Immediate Discharge Letter

NHS GGC – NHS Greater Glasgow and Clyde

NSAID – Non-Steroidal Anti-Inflammatory Drug

Polypharmacy – The prescription of multiple medicines

PSP – Prescribing Support Pharmacist

PST – Prescribing Support Technician

Read coding – A series of standardised codes used within GP practice systems to identify pre-determined information

SABA Inhaler – Short-Acting Beta Agonist

Treated patient measure – Anonymised patient level data, delivered through the national Prescribing Information System, used to deliver metrics involving only patients receiving prescribed treatment

WTE – Whole Time Equivalent

Weighted Population – The current method for deriving a weighting formula is detailed on the website for the national Resource Allocation Committee (NRAC) - <http://www.nrac.scot.nhs.uk>