Health Education England

Kingston Hospital NHS Foundation Trust

Implementation plan to enhance the Discharge Medicines Service (DMS) service & improve clinical competencies of our ward-based Pharmacy Technicians - project report

Kingston Hospital NHS Foundation Trust

Sponspored and supported by Health Education England – London and Kent, Surrey and Sussex

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Glossary of terms

DMS	Discharge Medicines Service
MMPT	Medicines Management Pharmacy Technician
CRS	Electronic patient management system
CQUIN	Commissioning for Quality and Innovation
PharmOutcomes®	Secure web-based system for sharing data between hospital and community pharmacies
ACS	Acute coronary syndrome
HF	Heart failure
MDS	Monitored dosage system
IP	Inpatient
TTA	Discharge prescription – to take away

Project Team

The team was outlined by the project leads Senior Pharmacist Education & Training and the Senior Pharmacy Technician Education & Training. The accountable officer of the project was the the Senior Principal Pharmacist Clinical Services. Additional support was provided by the Pharmacy CRS (Care records service) team. The project sponsor was the Chief Pharmacist. We had full support from the department to undertake the project.

Acknowledgments

We would like to thank HEE for the funding, support and the opportunity to undertake this project.

Executive Summary

At KHFT it was identified that there was a need to provide patients with a Discharge Medicine Service (DMS). Cardiovascular patients in particular, are often on several medicines which have a polypharmacy related risk. Patients on heart failure or acute coronary syndrome medicines were specifically targeted for the project. This group of patients were selected as part of the NHS long-term plan to optimise cardiovascular treatment.

DMS improves communication between care sectors, enhances patient safety, and helps to reduce medication related re-admissions. To implement the service within the Trust, a cardiac MMPT was appointed to be overall responsible for the cardiac referrals and counselling. All MMPTs were then trained and upskilled to be able to effectively counsel and refer relevant patients, who could then be followed up in secondary care by their community pharmacy. Training programmes were developed and delivered to give MMPTs the key skills in DMS and knowledge of cardiovascular medicines. Once trained, the cardiac MMPT and MMPT workforce were able to identify, counsel and refer relevant patients. The results showed that 200 cardiac patients were identified over 8 months of which 41% (n=81) were counselled on their new/changed medication. 47% (n=94) of the 200 identified patients had cardiac referrals submitted to a community pharmacy of which 30% (n=29) were accepted. The project has enhanced the clinical role of MMPTs and improved the quality and efficiency of the pharmacy service. The results show the development of MMPT skills/knowledge has benefitted the care and safety of cardiac patients.

Background

Part of the NHS long-term plan is to ensure better treatment for cardiovascular patients and prevent up to 14,000 premature deaths for people with heart problems[1].

Cardiac patients require regular monitoring such as up titration /amendment of doses and are also started on multiple drugs with a polypharmacy risk due to harmful effects and interactions. Feedback from medical admissions team highlighted multiple cardiac admissions that would benefit from enhanced pharmacy technician input and community referrals on discharge.

At Kingston Hospital NHS Foundation Trust (KHFT) we were keen to expand the use of the Discharge Medicines Service (DMS) beyond the referrals to community pharmacy we currently make for patients discharged with compliance aids e.g., Monitored Dose Systems (MDS). KHFT was one of the first trusts in the Southwest London (SWL) area to implement PharmOutcomes®, a secure web-based application used to send discharge information to community pharmacies, our recognised DMS solution system, to make these referrals and we believe there are significant benefits to our patients in expanding the referral service we offer.

DMS referrals were routinely made by pharmacists only and pharmacy technicians were not involved in the process. As part of the project, we proposed that our medicines

[1] The NHS Long Term Plan – a summary 2019

management pharmacy technician (MMPT) workforce could be further integrated into the clinical setting by training them to identify high risk patients and make DMS referrals.

Current practice showed that DMS referrals from KHFT do not highlight when patients can benefit from advanced services/ structured medication reviews. The initial focus for this project was to expand DMS referrals to include high risk cardiac patients newly started on Acute Coronary Syndrome (ACS) or Heart Failure (HF) medications.

As part of this project, we proposed to increase the service of counselling and education provided to these patients regarding their medication and ensure patients were referred promptly to primary care on discharge.

Scoping for this project was to show the benefit of having a DMS MMPT on our medical wards facilitating DMS referrals and clinical ward-based activities such as triaging, counselling, providing lifestyle advice and helping to facilitate training of other MMPTs.

This project embeds the Health Education England (HEE) team priorities in that education and training i.e., providing specific interactive workshops for our pharmacy technicians underpinned the transformation and upskilling of our pharmacy technician workforce.

By ensuring high-risk cardiac patients are provided structured counselling our aim was to form a more engaged relationship with patients, carers /relatives to educate/ work with them to empower them regarding their medications.

As part of Medicines Value Programme, we wanted to ensure that medicines are not only used safely but that patients are supported to take them as intended. By integrating pharmacy technicians into our clinical ward team and having them undertake core clinical tasks they can support patients to optimise medications, promote healthy living and ensure patients are appropriately followed up in primary care.

It has been shown that between 30-70% of patients have either a medication error or unintentional change[2] to their medication when care is transferred. By having pharmacy technicians submit referrals to community pharmacists this will help to promote an extra safety net as the community pharmacy will be able to follow up with the GP to ensure any changes required are made to prescriptions. The community pharmacist will also be able to provide any advanced services such as the New Medicines Service (NMS) once discharged from hospital to help ensure safe continuation and follow up care in community.

Locally, as part of our Hospital Pharmacy Transformation Plan which considers the recommendations in the Carter report to improve the quality and efficiency of the pharmacy service, it was highlighted that we needed to increase the number of MMPTs to provide patient facing care. This increases the skill mix of our workforce and helps provide a sustainable and effective service. By providing these extended roles our vision is to support staff retention, role satisfaction and support efficient skill mix in our ward teams to help ensure our patients receive safe and optimal care.

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[2] Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes 2015

Aims and Objectives

Our aim was to expand DMS referrals to cardiac patients who had newly started or had changes to Acute Coronary Syndrome (ACS) or Heart Failure (HF) medicines and enhance the clinical competencies of our Medicines Management Pharmacy Technician (MMPT) workforce.

We set out the following key aims to help us successfully achieve this project:

- Design and develop a training programme for MMPTs to make DMS referrals to community pharmacy.
- MMPTs who have completed the programme to identify and counsel patients and make timely referrals to reduce medicine related incidents and hospital re-admissions.
- Ensure timely referrals to improve communication with primary care and aid patient outcomes so they can benefit from follow up care and services in the community.
- Integrating MMPTs fully into the clinical ward service to enhance their competencies and ensure patients have a seamless transition between care settings.

Ultimately, by achieving the aims we would be able to demonstrate the importance of having our MMPT team involved in clinically supporting in patient facing roles such as DMS, counselling, triaging, promotion of healthy living, safe and secure audit. By developing their skills and knowledge it helps to ensure we can provide a safe and effective pharmacy service.

Prior to the project, an audit was carried out over a two-week period. The ward pharmacist team collated baseline data on the following:

> Number of patients on newly started ACS or heart failure medicines

> Number of patients who had changes made to their ACS or heart failure medications during admission.

> Number of cardiac patients counselled on discharge by ward pharmacy team over a period of 2 weeks.

>Number of PharmOutcomes® sent within 48 hours of discharge.

The data was collected to quantitively show the number of cardiac patients that could benefit from this project and was also used to help us determine our KPIs.

Methodology

An experienced MMPT was seconded into the role of cardiac MMPT for the duration of the the project. An MMPT with existing clinical knowledge and experience was required to lead on supporting the transfer of care for patients on discharge. The expertise also benefitted the training of other MMPTs in making DMS referrals.

Following baseline data collection, an implementation meeting was held to discuss and agree a process map to outline the current roles and responsibilites for MMPTs and to identify futher clinical skills for development to enhance their role (see appendix 1 – MMPT role mind maps).

Prior to the project launching, the cardiac MMPT contacted local community pharmacies to inform them of the project and explain that their engagement is crucial in ensuring the patients are benfitting from it.

The project plan included 6 months of scoping, preparation and the delivery of MMPT training. Developing the skills and knowledge in DMS for the cardiac MMPT and piloting the referral process, under the supervision of the cardiac pharmacist. At 7 months the project was launched to the department and the cardiac MMPT then began undertaking daily clinical duties and identifying suitable patients that could benefit from counselling and community follow up. At 9 months audit data was collated,analysed and evaluated to demonstate the impact of this project on patient care.

Prior to the project launch, several steps were taken to ensure MMPTs were given the relevant knowledge, skills and resources to undertake the DMS role.

Months 1 – 2

The electronic prescribing team created workflow lists to allow the pharmacy team to add high-risk cardiac patients who required a referral to community pharmacy.

Two workflow lists were created:

1. ‘DMS cardiac referrals – IP list’ – pharmacy team use this list to add inpatients who met the referral criteria and would need referral on discharge.
2. ‘DMS cardiac referrals – TTA list’ – patients are moved over to this list once a discharge is confirmed to highlight that the patient’s discharge medication list needs to be submitted via PharmOutcomes®.

Months 3 - 5

Training resources and materials were developed, including a detailed MMPT training pack. Interactive workshops were designed to advance the clinical competencies for our MMPTs. *(see Training workshop resources pack).* Workshops included a variety of topics including: on

Workshop Topic	Focus
Triage/prioritisation and when to refer to the Pharmacist	The focus of this session was to give MMPTs skills and resources to be able to identify high risk patients. A clinical workflow checklist *(see appendix 2 MMPT workflow chart)* was developed to support MMPTs whilst undertaking clinical duties on the ward. A range of scenarios relating to when to refer to a pharmacist, were discussed as a group.
Safe and secure audits	The purpose of this session was to ensure MMPTs gain experience with clinical audits and understand the importance of medication storage, requirements, waste, and cost implications. Safe and secure audits are a departmental mandated training requriement for Pharmacists. Part of the expansion of ward skills of MMPTs included training to undertake these audits to understand the importance of why it is necessary and the impact on patient safety. Following the workshop, MMPTs were required to complete a safe and secure audit accreditation
High risk cardiac medicines	This session was developed to provide clinical learning on the conditions ACS and HF and to cover common medications encountered with these conditions in more detail, including how drugs work, side effects and counselling points.
Counselling on new, changed and stopped medication	Role play scenarios were used for this session to provide an interactive element and give the MMPTs an opportunity to develop their counselling skills. Scenarios were created for patients with HF or ACS and MMPTs were required to provide appropriate counselling based on the brief. Peer feedback was then given to the MMPTs on how they counselled the 'patient' including good areas of practice and areas for improvement.
Health promotion	Resources on healthy living were provided and discussed as a group. The trusts' heart failure nurse produced some information on how the pharmacy team could support patients with heart failure when counselling them on discharge. This included instructions for heart failure patients on discharge and key counselling points.

Months 5 - 6

- Training workshops were delivered to MMPTs. The cardiac MMPT undertook the following training during the first month of working on the cardiac ward:
- Read standard operating procedures (SOPs) for DMS
- Read the section on DMS within the NHSE&I guidance on the regulations
- Read the DMS toolkit
- Completed the CPPE NHS Discharge Medicines Service eLearning and assessment.
- Completed the DMS Declaration of Competence

Once the prerequisite learning was complete, the cardiac MMPT helped facilitate training of other MMPTs in DMS. 7 out of 8 MMPTs were trained and completed competencies for DMS referrals.

Month 7

A project launch presentation was prepared and delivered to the pharmacy team to demonstrate the importance of DMS referrals, discuss the national Commissioning for Quality and Innovation (CQUIN) for DMS referrals, discuss results from our baseline data and explain about the aims of the project and how we plan to achieve them. Workflow changes were discussed, including cardiac inpatient and discharge lists , the role of the MMPT on the cardiac ward and expectations of other MMPTs in relation to clinical work.

The project was launched in month 7, which included rolling out the project to other wards in the hospital and encouraging ward pharmacy teams to identify and refer patients either initiated on or with dose changes for ACS or HF medications.

The barrier to rolling out the project to other wards was time constraints to identify and counsel patients . Other factors which effected the uptake of referrals was lack of staffing, cover pharmacists covering wards and some MMPTs only present on wards in the morning and not in the afternoon when discharges usually occur.

Months 8 – 12

The cardiac MMPT implemented clinical duties on the cardiac ward by identifying, counselling and referring high-risk cardiac patients. Data was collected and monitored against performance data to demonstrate the effectiveness of the project.

Milestones

Two key milestones were identified for the project.

Development of the clinical training programme for MMPTs.

Many of our MMPTs were newly qualified or had limited experience, especially in regards to DMS and counselling. It was highlighted that the existing role was focused solely on

completing medicines reconciliations. From our departmental learning and development workforce group, led by pharmacy staff members, it was identified that MMPTs requested more variation and opportunities in their job role. The devopment of the training programme helped to enhance MMPT clinical skills and knowledge, thus increasing job satisfaction.

The cardiac MMPT competently identifying, counselling and referring ACS or HF patients.

Following comprehensive training, the cardiac MMPT was able to complete clinical duties whilst working on the cardiac ward and

Performance Indicators

Key performance indicators (KPI) were discussed and implemented at the start of the project to quantitively demonstrate outcomes of the project and to identify the benefits.

KPI 1 - Number of cardiac medication PharmOutcomes® submitted for patients on the cardiology ward

This performance data was to monitor the effectiveness of the DMS workflow model. The cardiac MMPT inputted data once they had submitted a PharmOutcomes referral via DMS to capture the following information:

- Number of PharmOutcomes referrals submitted for identified patients
- Number of PharmOutcomes referrals that had been accepted, rejected, pending or actioned by the community pharmacy

KPI 2 - Number of heart failure and ACS patients counselled on cardiac wards

This performance data was to identify how the cardiac MMPT supported cardiac patients and educated them on medications. The cardiac MMPT inputted data once they had counselled a patient to capture the following information:

- Number of medications they counselled the patient on
- Number of newly started medications
- Number of dose changes and the number of stopped medication
- If the MMPT provided health promotion advice to the patient and if they counselled the patient on alcohol and smoking

KPI 3 - Number of cardiac PharmOutcomes® referrals that have not been submitted within 48 hours by the pharmacy team

This performance data was to identify if timely DMS referrals were being made to community pharmacies. The national standard states that DMS referrals should be made within 72

hours of hospital discharge. A target of referrals submitted within 48 hours was set as part of the project to demonstrate the benefit of the cardiac MMPT and to prove that referrals can be made in a timely manner to ensure community pharmacies are given sufficient time to prepare for primary care intervention. The cardiac MMPT inputted data once they had refferred a patient via PharmOutcomes to capture the following information:

- The discharge date for each identified patient
- The date of PharmOutcomes referral submission, if applicable
- The date the referral was accepted and actioned by the community pharmacy

The data that was recorded allowed us to determine whether a referral had been submitted within:

- 48 hours – project performance target
- 72 hours – national standard for DMS referrals
- 72 hours+ - outside of expected performance target and national standard

KPI 4 - Number of cardiac medications PharmOutcomes® submitted from non-cardiology wards monthly & number of patients counselled on non-cardiac wards.

This performance data was to identify the number of high-risk cardiac patients from non-cardiology wards who could have benefitted from pharmacy intervention to provide counselling and DMS referral and demonstrate the need for MMPTs to undertake the following data was inputted into the data collection spreadsheet to capture:

- Number of PharmOutcomes referrals submitted for identified patients including date of referral
- Number of medications they counselled the patient on
- Number of newly started medications
- Number of dose changes and the number of stopped medication
- If the MMPT provided health promotion advice to the patient and if they counselled the patient on alcohol and smoking

Whilst the project was launched to other wards, data for this was difficult to achieve and results for this were quantified over a period of one month only.

Additional project data

Staff survey

MMPTs were asked to complete feedback surveys post training workshops to highlight areas that were beneficial and areas that could be improved for the particular training sessions. 100% of respondents agreed the workshop sessions were ‘good’ (on a scale from poor to excellent), engaging and supportive, resources were provided and that the sessions met their expectations. Other comments from the MMPTs highlighted that the sessions were

informative and detailed. MMPTs stated that they enjoyed learning new skills and looked forward to applying them in practice.

Respondents noted suggestions to improve future sessions. Comments included more role play exercises to support counselling and more detailed discussions on specific classes of medicines via teaching sessions.

Patient satisfaction survey

Patients were asked to complete feedback surveys following counselling intervention, to highlight any positive feedback and ways the service can be improved. 9 patients completed the patient satisfaction survey. The responses indicated that 100% of patients found their discharge consultations 'very good' or 'excellent' and that they were provided with the necessary information about their medicines and how to take them.

Comments made by patients showed that the counselling service they received was very informative, helpful, detailed and efficient. It helped them to understand how to take unchanged, changed or newly prescribed medicines correctly. Overall, patients had a good experience of the service.

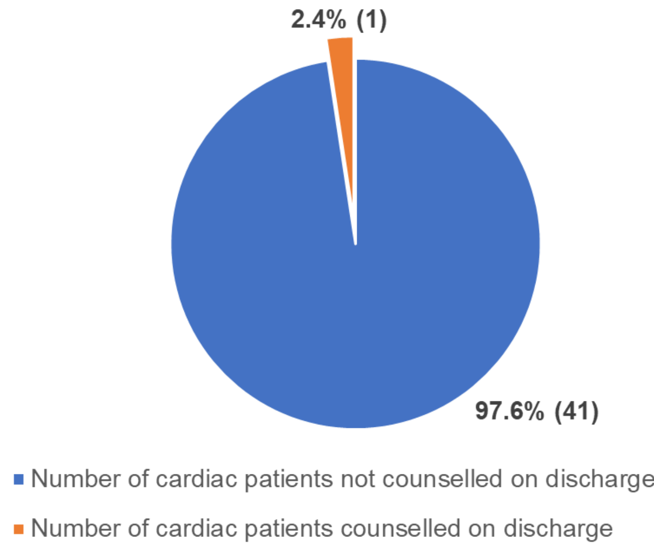
See Appendix 3 Patient satisfaction survey for further detail.

Results

Baseline data

From 22/03/22 – 08/04/22 baseline data was collected on all wards to determine the number of eligible patients who could benefit from pharmacy input on discharge and referral to community pharmacy. Ward teams were asked to identify patients who had been newly started or had recent dose changes on ACS or HF medicines. Pharmacists and MMPTs were asked to counsel these patients on discharge and make a DMS referral to the nominated community pharmacy. From this data, it was identified that 42 patients had been newly started/dose changes to ACS or HF drugs and required counselling. Only 1 patient was counselled on discharge which was on the cardiology ward. Low staffing levels impacted the ward team's capacity to counsel the identified patients and send DMS referrals in a timely manner. See figure 1 below.

Figure 1 – Total number of cardiac patients that required counselling over a 2 week period

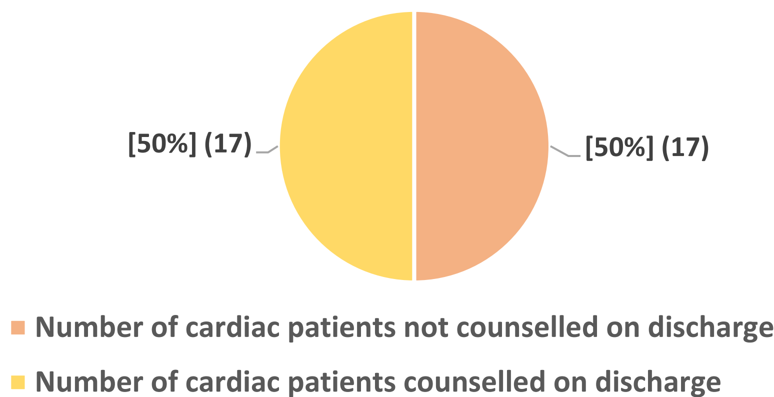


Pilot impact data

Once the cardiac MMPT had been trained and was competent in identifying high risk cardiac patients and making DMS referrals, we audited one month of patient data collection to see the change from baseline data and to monitor the effectiveness of the cardiac MMPT carrying out the DMS role.

In July 2022 34 eligible patients were identified on the cardiac ward for counselling and referral. 50% (n=17) of these patients were counselled on discharge by the cardiac MMPT (see figure 2). The barrier for the first month of data collection was due to the cardiac MMPT familiarising themselves with the DMS process and working on the cardiac ward. This demonstrated the benefit of having the cardiac MMPT responsible for counselling and referrals. From baseline data there was a significant increase in the number of patients who were counselled solely on the cardiac ward which identified the need for the project

Figure 2 – Total number of cardiac patients counselled in July 2022 on the cardiac ward (Bronte)



Baseline data was also collected on the number of pharmoutcome referrals for blister pack patients that were submitted within 48 hours. This data was to help set a target for KPIs relating to cardiac referrals. Over the two-week period, 32 patients had been referred via pharmoutcomes®, of this 59% (n=19 patients) had referrals submitted to community pharmacies within 48 hours.

KPI 1- Number of cardiac medication Pharmoutcomes® submitted for patients on the cardiology ward

In total 227 patients were identified, of these 47% (n=107) had cardiac referrals submitted to community pharmacy of which 30% (n=32) were accepted by the community pharmacy. The lack of referral acceptances was due to the DMS being a new service for community pharmacies. Community pharmacies have limited experience of using PharmOutcomes®, which can be a difficult system to navigate. Whilst the cardiac MMPT did contact community pharmacies to inform them of the project, there were no regular meetings held with local community pharmacies for support. Support is needed from the Local Pharmaceutical Committee (LPC) to improve engagement of community pharmacies.

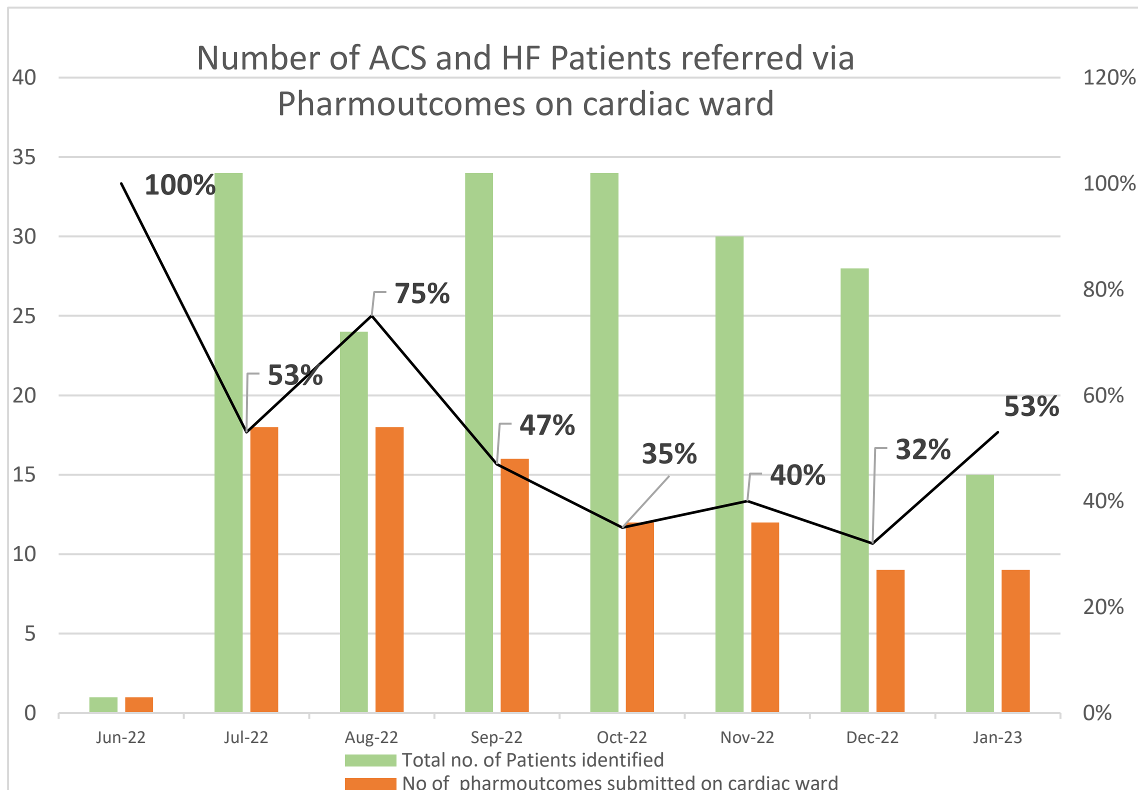
The cardiac MMPT began working on the cardiology ward from May and was initially completing DMS training and familiarising herself with the workflow and processes. As the cardiac MMPT was in the process of completing competencies during May and June there was only 1 referral submitted on the cardiac ward in June.
Following completion of training, in July and August, there was a peak of 18 referrals being submitted (see figure 3). This is when the cardiac MMPT was competent and confident with workflow and responsibilities. A data collection spreadsheet was implemented to collate data. In July 34 cardiac patients were identified of these 53% (n=18) Pharmoutcomes® were

submitted. In August 24 patients were identified of these 75% (n=18) Pharmoutcomes® were submitted.
From August to October there is a downward trend which is due to factors such as, several patients being transferred to different hospitals such as St Georges or Royal Brompton and more patients being discharged over the weekend, when there is no pharmacist or MMPT presence on the ward.

In September 34 patients were identified of these 47% (n=16) pharmoutcomes® were submitted
October 34 cardiac patients were identified of these 35% (n=12) had referrals submitted via pharmoutcomes®.

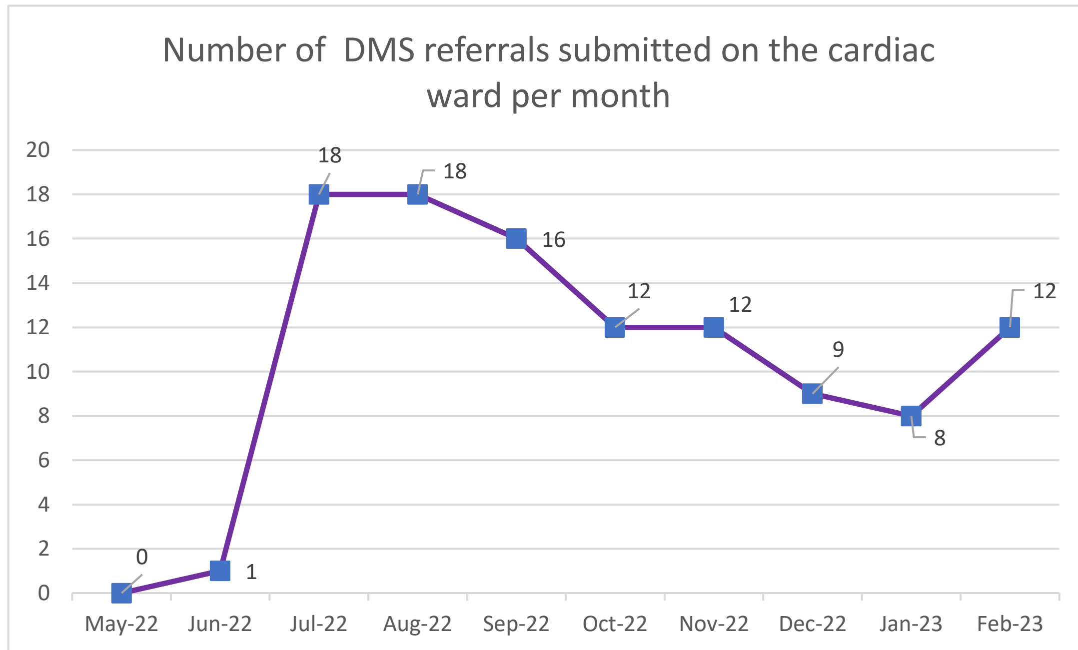
Between November and January there is a decrease in the number of ACS and HF patients identified on the ward. In November, 30 patients were identified of these 40% had referrals submitted. In December 28 patients were identified of these 32% of referrals were submitted. In January 15 patients were identified of these 53% of referrals were sent across. The low figures with referrals in December are due to the holiday period and annual leave. This is likely to have had an effect in January in that less patients were identified in this month compared to other months. In February 27 patients were identified of these 44% (n=12) were referred via pharmoutcomes®. June 2022 was the pilot month during which time the cardiac MMPT was familiarising themselves with the ward and DMS process. This is why only one patient was identified and referred via PharmOutcomes by the cardiac MMPT in June 2022. See figure 3.

Figure 3 – Number of ACS and HF patients referred via PharmOutcomes® on the cardiac ward by the MMPT



The number of referrals related to the initiation or dose change of ACS or HF medicines increased from pre-implementation as per the graph below (see figure 4). A total of 107 (47%) out of 227 patients on the cardiac ward had PharmOutcomes® referrals submitted, during the data collection periods.

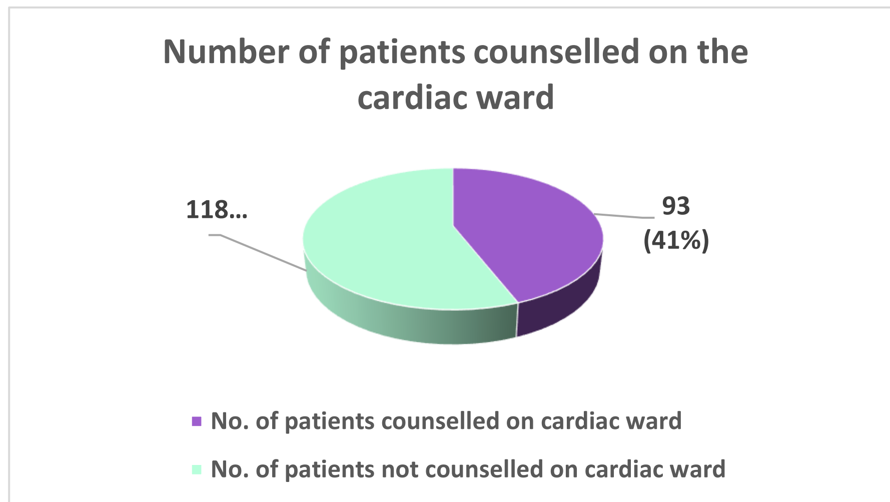
Figure 4 – Number of DMS referrals submitted on the cardiac ward per month by MMPT



KPI 2 - Number of heart failure and ACS patients counselled on cardiac wards.

A total of 93 (41%) out of 227 identified patients on the cardiac ward were counselled on discharge during the data collection period between June 2022 and February 2023 – (see figure 5). Counselling numbers were low due to a large number of patients being transferred to other secondary care organisations or to nursing/care homes. There is no ward-based pharmacy service provision at weekends. Several patients discharged over the weekend were not seen by Pharmacy and thus not counselled by the MMPT.

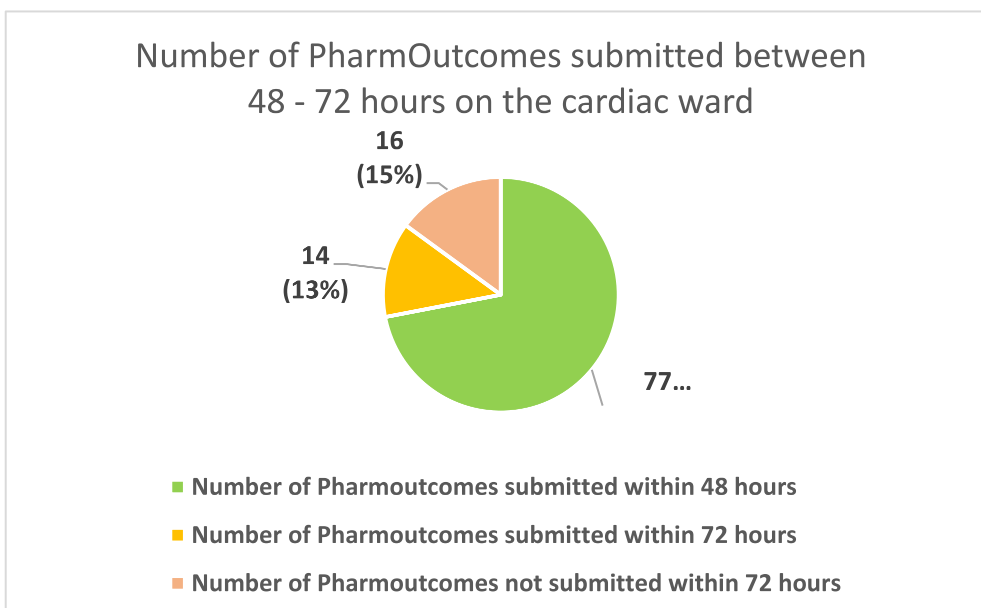
Figure 5 – Number of patients counselled by MMPT on the cardiac ward between June 2022 and February 2023



KPI 3 - Number of cardiac PharmOutcomes® referrals that have not been submitted within 48 hours by the MMPT

A total of 107 PharmOutcomes® referrals were submitted during the data collection period between July 2022 and February 2023 (see figure 6). 72% (n=77) were submitted within 48 hours as per our project target, 13% (n=14) referrals were submitted within 72 hours as per the national standard and (15% n=16) of referrals were not submitted within 72 hours. Delays in referrals were likely due to annual leave of the cardiac MMPT.

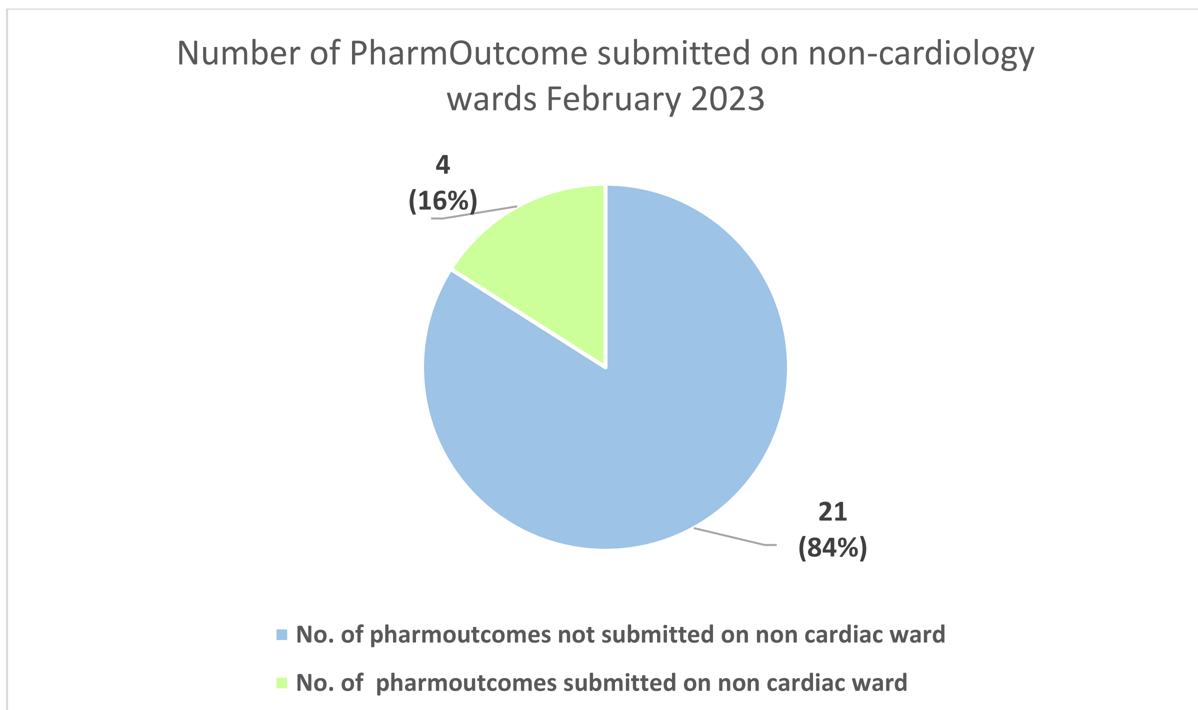
Figure 6 – Number of PharmOutcomes® submitted between 48 – 72 hours on the cardiac ward



KPI 4 - Number of cardiac medications PharmOutcomes® DMS referrals submitted from non-cardiology wards monthly & number of patients counselled on non-cardiac wards (Feb 2023 only).

A total of 5 (12%) out of 41 patients had PharmOutcomes® referrals submitted on non-cardiology wards over the data collection period. We ran an audit during the month of February to see how many patients were identified on non-cardiology wards, the number of these patients that were counselled and referred to their community pharmacy. In February, 25 patients were identified on non-cardiology wards and out these 20% (n=5) were counselled on discharge and 16% (n=4) were referred via PharmOutcomes® (see figure 7).

Figure 7 – Number of PharmOutcomes® submitted on non-cardiology wards in February 2023



Discussion

The results for all KPIs indicate there is still room for significant improvement in ensuring a higher number of high-risk cardiac patients are counselled and referred via PharmOutcomes® in a timely manner.

KPI targets are listed and compared against the results below:

KPI 1- Number of cardiac medication PharmOutcomes® submitted for patients on the cardiology ward

The target for this performance indicator was set at 25% of patients recently changed or newly started on ACS or HF medications referred via PharmOutcomes® with an aim to gradually increase to 50% of patients being referred via PharmOutcomes®.

47% of identified cardiac patients had DMS referrals submitted through the MMPT role. A target of 50% submissions by the MMPT was set as we were not routinely submitting referrals for cardiac patients previously.

Factors which effected the PharmOutcomes® referral rate:

- The cardiac MMPT still had a responsibility to submit PharmOutcomes® referrals for blister pack change patients on the cardiac ward, as well as other wards, as per our Trust DMS procedure. The cardiac MMPT also had other clinical responsibilities to undertake on the cardiac ward which reduced time spent on submitting cardiac referrals.
- Many cardiac patients are transferred from Kingston Hospital to other hospitals on discharge and are therefore not going to be followed up in community pharmacy immediately after discharge.
- A large portion of the local population is elderly which leads to many patients being discharged to different destinations, e.g., care homes and rehabilitation centres. Counselling was not provided to these patients and DMS referrals were not made. This impacted the effectiveness and opportunity to counsel and refer a higher number of patients.

To achieve this objective, the MMPT team structure and work priorities need to be developed to work more cohesively with the wider cardiac and pharmacy team. The MMPT workforce has many newly qualified pharmacy technicians and so this will likely develop over time and having a lead cardiac MMPT will help support this team integration. When the cardiac MMPT was on leave during the initial stages another MMPT would fill in but over time there was a gap and an improvement going forward would be to add this role on the rota to state who will take responsibility for cardiac DMS referrals when cardiac MMPT is on leave.

KPI 2 - Number of heart failure and ACS patients counselled on cardiac wards.

The target for this performance indicator was 25% with the aim of gradually increasing this to 50% as the project progressed.

This target was based on baseline data results of 2.4% of patients being counselled prior to the project commencing. Counselling on the cardiac ward was historically nurse led only. 41% of patients were counselled during this project by the pharmacy team, which is an increase of 38.6%.

To further improve this, the MMPTs need to work closely with our pharmacists to help ensure as many patients are counselled as possible and work as an integrated team.

Recommendations: MMPTs need to assist in the preparation of TTOs in advance for stable patients so they do not have to wait until point of discharge which may happen at the weekend when no pharmacy team member is around on the cardiac ward to counsel the patient. Having a regular cardiac MMPT has shown the significant increase in counselling provided to our patients and the benefits of having the pharmacy technician on the ward.

KPI 3 - Number of cardiac PharmOutcomes referrals that have not been submitted within 48 hours by the pharmacy team

The target for this performance indicator was set at 20% with the aim of reducing this to 5% as the project progressed. From the data, 30% of referrals were not submitted within 48 hours. 13% of these referrals were done within 72 hours, which met the CQUIN criteria for referral. The target was set based on national CQUIN recommendations and baseline data for PharmOutcomes referrals for blister pack patients sent across within 48 hours. This data showed 59% of referrals were being sent within 48 hours.

Recommendations:

To improve this the team could add a designated person onto the rota to ensure each day referrals are sent. If the referrals build up, then takes longer to send across and there is less chance of them being submitted in time. If there are a lot of pharmoutcomes having two MMTs allocated for first hour of morning to sort through them to ensure get sent across before and straight after weekend should ensure referrals get sent across straight after the weekend instead of a few days later which is the trend we saw if a patient was discharged on a Saturday or Sunday referral was not sent till Wednesday, Thursday the following week.

The project has improved communication between primary and secondary care. Our cardiac MMPT has engaged with our local community pharmacies to inform them of this project and followed up some chemists if referrals were not accepted.

From the satisfaction survey patients have confirmed they found this service useful.

Limitations

- Engagement from wider pharmacy team

The engagement from the wider pharmacy team was lower than anticipated. Throughout the duration of the project, the department had several vacancies for clinical staff members. This resulted in our existing clinical Pharmacists and MMPTs covering multiple wards each day. Therefore, their time was limited and their focus was on completing drug histories, screening drug charts, preparing TTOs for discharge as well as ad hoc ward duties. This did not allow enough time to complete counselling and make DMS referrals, therefore limiting the number of patients that could benefit from the DMS service.

- Cardiac MMPT was the only person responsible for cardiac DMS referrals and counselling

As the cardiac MMPT was the sole person responsible for counselling and referring all relevant patients on the cardiac ward, it proved difficult for them to capture every patient who met the criteria for DMS. Therefore, the number of patient referrals that were submitted did not meet the original target. The cardiac pharmacist did provide some support with counselling relevant patients on the cardiac ward.

Outcomes

The key aims of the project were shown through KPI data and results. The results have highlighted the benefit to having our MMPTs in a clinical patient facing role. The project has also helped ensure our MMPT workforce has had structured training to help support their development and ultimately help to improve the quality of care for our patients.

Various resources and materials have been developed to support the project. Training materials have been key in supporting the development of the MMPT workforce and ensuring there is robust, efficient, and standardised training in place. The existing medicines management training resources required a complete transformation to include the updates to clinical skills and knowledge and to reflect the additional clinical duties we are expecting the MMPT workforce to undertake, such as DMS. The newly developed MMPT training pack (*see KHFT Medicines Management Training pack_v1*) outlines the roles and responsibilities for MMPTs and what training needs to be undertaken to be competent in all aspects of the role. The training pack includes medicines management related procedures, self-directed reading, online learning i.e., CPPE modules, information about wards and specialties, ward induction checklist, practical training including PharmOutcomes and competency logs for required skills. The workshops have been included in the MMPT training pack to ensure any new MMPTs are fully trained and competent in the relevant aspects of the DMS. The training pack will be applicable to MMPTs and Pre-registration Trainee Pharmacy Technicians.

A patient satisfaction survey was created to be given to patients who had received pharmacy led counselling upon discharge, an opportunity to provide feedback on the service. The survey has helped to prove that the pharmacy counselling service is effective and beneficial to patients. A higher number of surveys were expected to be completed following the project roll out.

Conclusion

The project has shown the impact of upskilling the MMPT workforce on the care of our patients.

The cardiac ward has had a dedicated MMPT who integrated with the ward team. The cardiac MMPT worked closely with the cardiac pharmacist, senior sister , nurses, other MMPTs and heart failure team on the ward and helped to educate patients on the ward to empower them regarding their medications.The cardiac MMPT also ensured patients were safely discharged with information regarding their medication and in certain cases, due to bed pressures, patients were moved to discharge lounge before counselling could take place. The cardiac MMPT found the patient and ensured they were counselled and had the opportunity to discuss any concerns regarding their medication prior to discharge.

The cardiac MMPT and cardiac pharmacist also noted patients were not receiving their antiplatelet medicine card and ensured that the ward kept a stock of these and these were given and discussed with the patient when counselling on clopidogrel and ticagrelol for ACS. It was highlighted that some patients who were readmitted to hospital, still had clopidogrel charted after one year, when the plan was originally for one year only and ensuring patients are aware and educated on this prior to discharge will help prevent them being on medications longer than needed.

The cardiac MMPT undertook core clinical tasks, helped optimised patient's medications, promoted healthy living, and helped ensure referrals were sent in a timely manner so patients could be appropriately followed up in primary care. The cardiac MMPT formed links with community pharmacies to engage them in the project and ensure PharmOutcomes referrals were followed up to ensure medication changes were made promptly to prevent medication errors and help prevent medication related readmissions to hospitals.

The results of the patients satisfaction surveys show a positive response to the pharmacy service patients received. Patients described the service as excellent, useful and informative.

To make this business as usual and see further improvement in our results we need to have more integration for the MMPT and pharmacist team.The results and outcomes of the project will be shared with the wider pharmacy team to highlight ways to improve the DMS workflow. Pharmacists and MMPTs will need to incorporate DMS tasks into their daily duties in order for the service to run effectively and beneficial to identified high risk patients and to ensure PharmOutcome referrals are submitted within 48 hours of discharge.

MMPTs have been provided with training materials and rescources, including an MMPT training pack, to support them whilst working on the ward.

The plan is to put in a full business case to have a permanent DMS MMPT to continue supporting cardiac patients and to work alongside the DMS link pharmacist to develop a working group to review eligibility criteria for referrals and expand the other high-risk categories of patients who should be referred via PharmOutcomes to optimise their care. Referral criteria for other high-risk groups would consider local population needs.

From this project it was highlighted that there was no written information to hand out to patients, therefore a DMS patient leaflet has been produced (see appendix 4 DMS patient information leaflet). This will need to be rolled out to patients once approved by the trust

patient experience team to ensure patients have information, they can take home with them regarding the service and how it can help them.

Ultimately, whilst the results show there is room for significant improvement, we feel this project has shown the benefit of integrating and developing the clinical competencies of the MMPT workforce. As the MMPTs continue to gain experience in patient facing roles and working as part of the clinical ward team they will ensure a sustainable, efficient service embedding best medicine practice.

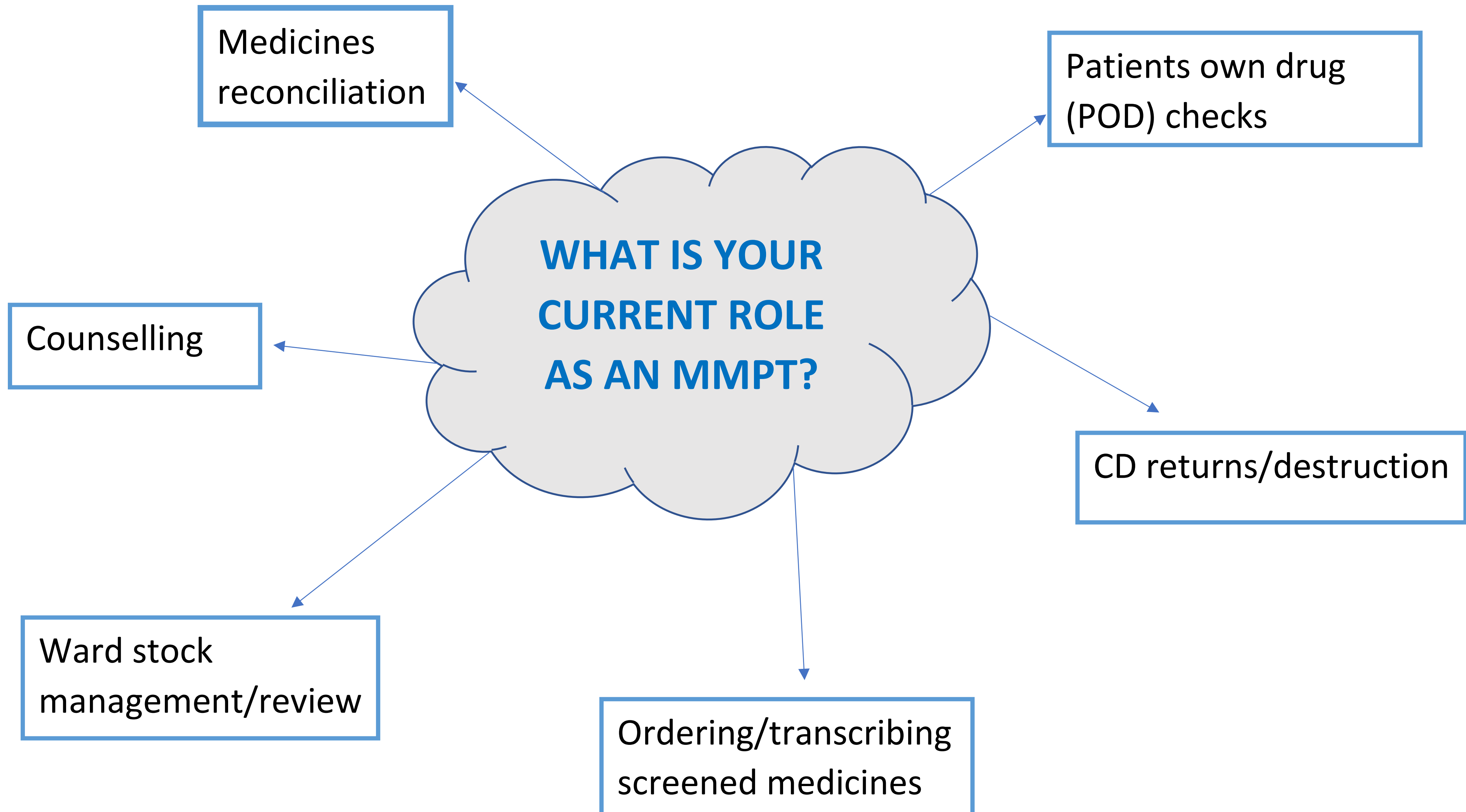
References

NHS Long Term Plan, version 1.2, August 2019 - https://www.longtermplan.nhs.uk/

NHS Discharge Medicines Service – Essential Service: Toolkit for pharmacy staff in community, primary and secondary care, 15th January 2021 https://www.england.nhs.uk/publication/nhs-discharge-medicines-service-essential-service-toolkit-for-pharmacy-staff-in-community-primary-and-secondary-care/

Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes 2015.

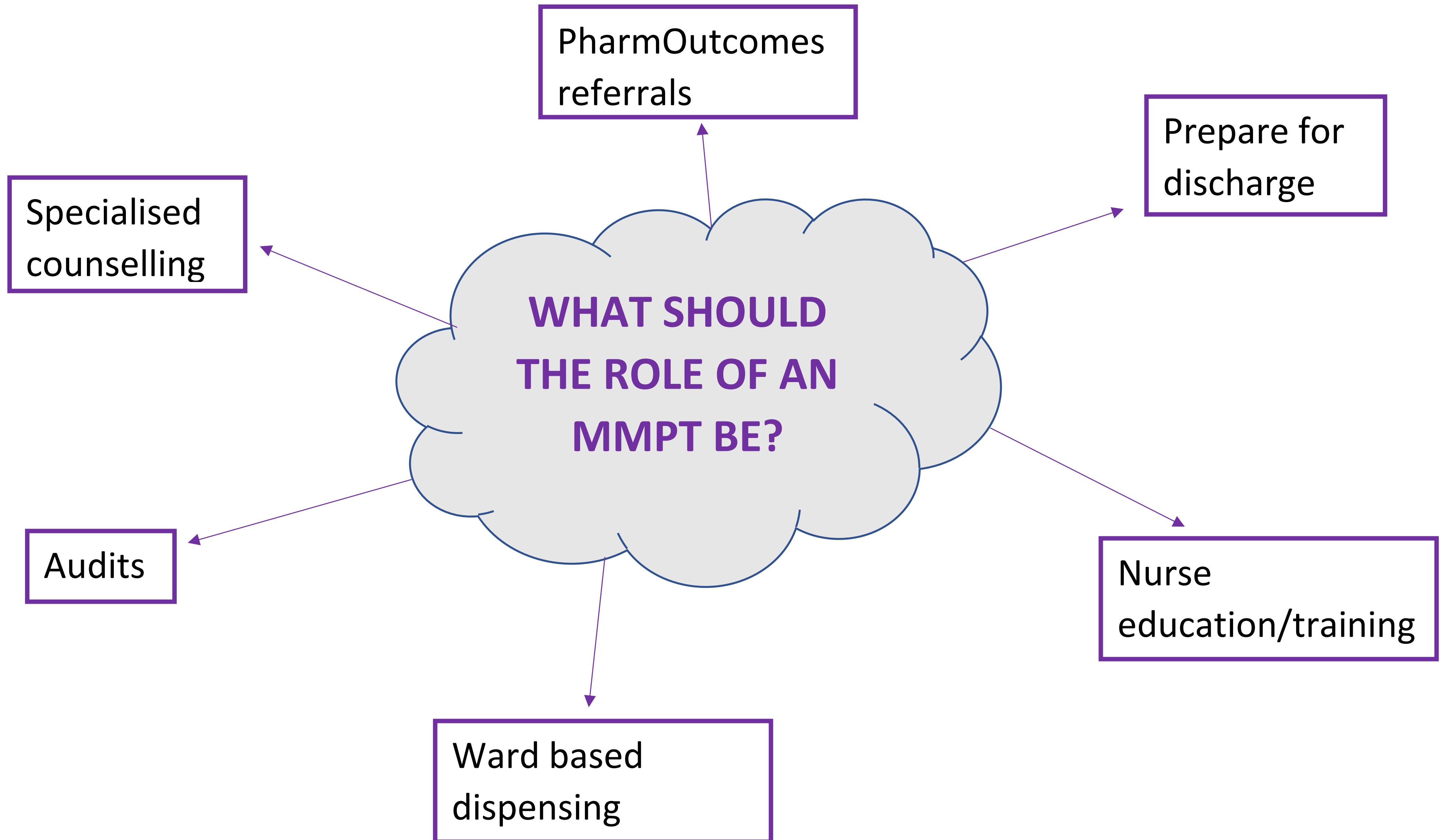
Appendices

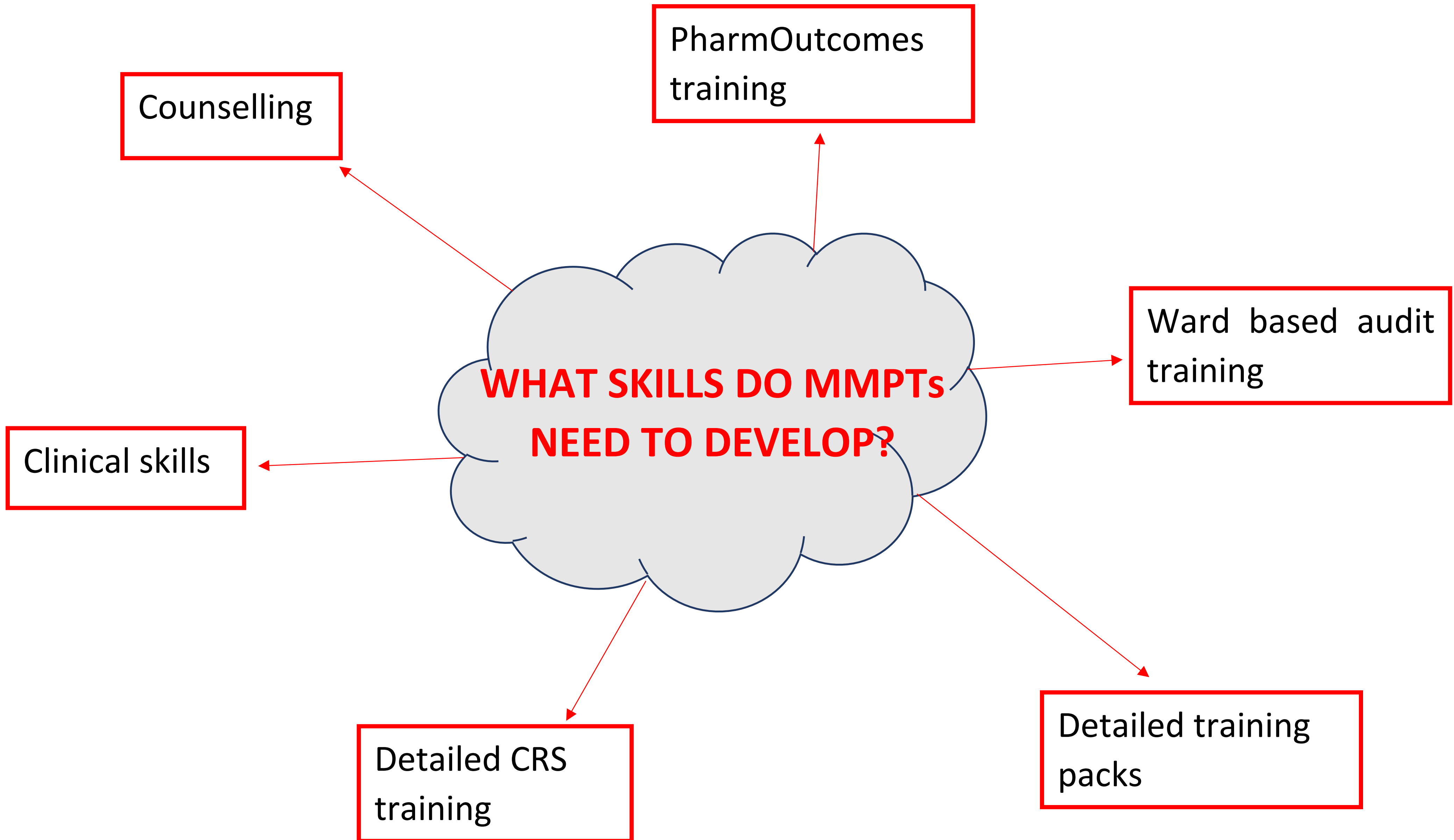


Appendix 1: MMPT role mindmaps

Health Education England

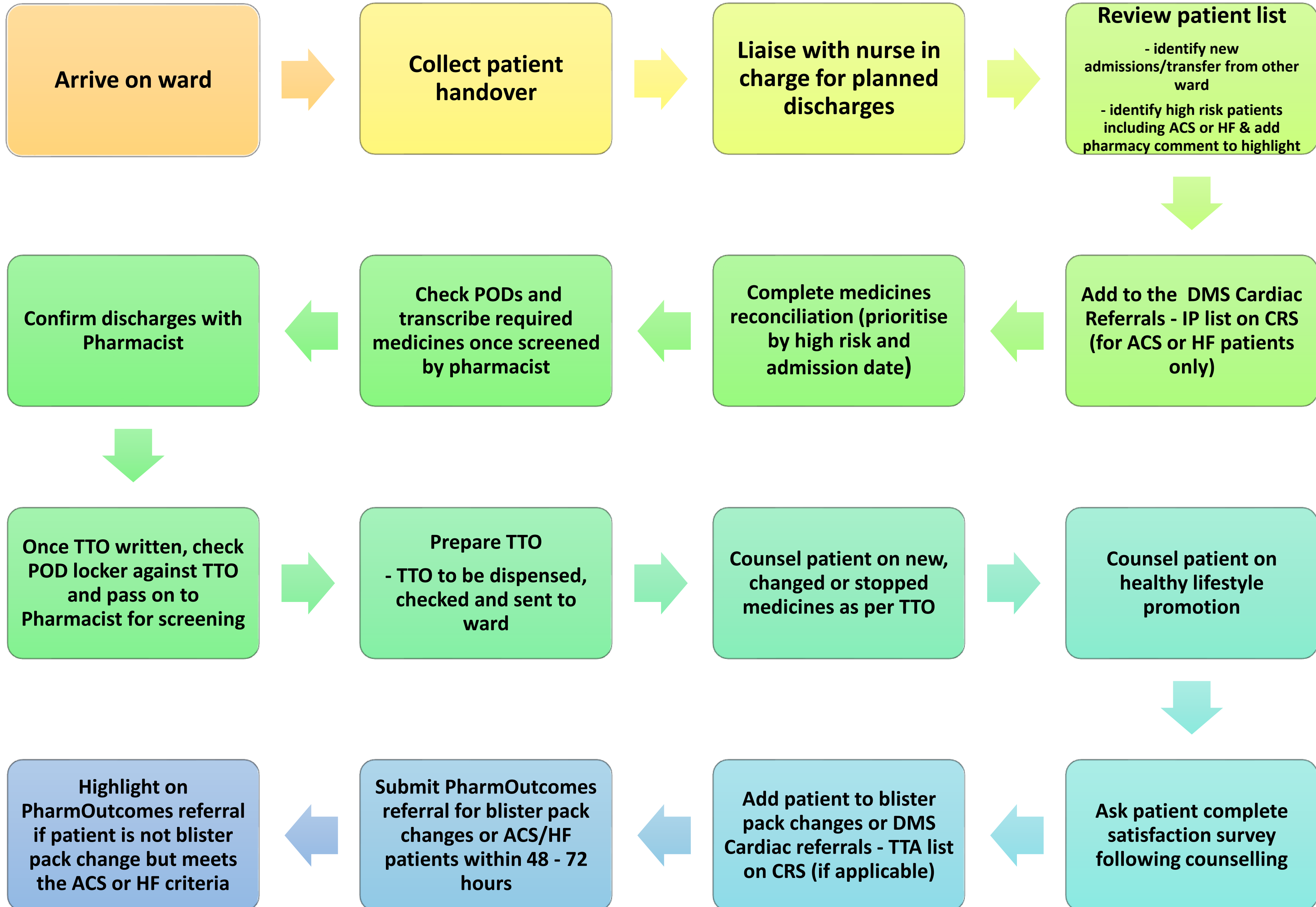
Kingston Hospital
NHS Foundation Trust




Health Education England
Kingston Hospital
NHS Foundation Trust
PharmOutcomes training
Counselling
WHAT SKILLS DO MMPTs NEED TO DEVELOP?
Ward based audit training
Clinical skills
Detailed CRS training
Detailed training packs

Medicines Management Pharmacy Technician Workflow Chart v1

Appendix 2: MMPT workflow chart



Patient Satisfaction Survey - Pharmacy Service

	How well did the pharmacy team:	Poor	Fair	Good	Very Good	Excellent
1	Introduce themselves and explain the purpose of the consultation	☐	☐	☐	☐	☐
2	Obtain your medication history i.e., confirm the medicines you were taking prior to admission	☐	☐	☐	☐	☐
3	Explained the medicines you should take	☐	☐	☐	☐	☐
4	Counsel you on any new medicines or any changes made to your medication during your admission	☐	☐	☐	☐	☐
5	Provide information about your medicines and the importance of taking them	☐	☐	☐	☐	☐
6	Give you advice about healthy lifestyle changes	☐	☐	☐	☐	☐
7	Answer your questions	☐	☐	☐	☐	☐
8	Communicate with you	☐	☐	☐	☐	☐
9	How well do you think the pharmacy team member helped you to manage your medicines	☐	☐	☐	☐	☐
10	Overall, how would you rate your experience of the Pharmacy team	☐	☐	☐	☐	☐

Comments:

Thank you for taking the time to complete this survey.

Appendix 3: Patient satisfaction survey

Appendix 4: DMS Patient information leaflet

NHS
Kingston Hospital
NHS Foundation Trust

Discharge Medicines Service

Information for patients

This leaflet provides information about the Discharge Medicines Service. If you need further information, please speak to your doctor, nurse or one of the pharmacy team members.

What is the Discharge Medicines Service?

The Discharge Medicines Service is an essential service that community pharmacies must provide to patients who need extra support with their medicines. During a stay in hospital there can often be changes to your medicines. Kingston Hospital can refer you to your community pharmacy when you are discharged from hospital to inform them of any updates to your medications so they can give you additional support to ensure you are getting the best out of your medicines.

How can this service help me?

The Discharge Medicines Services creates better links between hospital, community pharmacies and your GP to support you with your medicines in the best possible way. The service is essential in:

- Making sure you are using your medicines safely and effectively once discharged from hospital
- Improving the process of transferring information about your medicines between hospital and community pharmacy
- Improving your understanding of the medicines you take
- Providing you with ongoing support and information around your medicines

Who can use this service?

Patients who would benefit from additional support with their medicines once they have been discharged from hospital can be referred to their community pharmacy as part of the service.

How does the service work?

- → Once you are ready to be discharged from hospital, a Pharmacy Technician or Pharmacist will come and speak to you about your medicines
- → You can choose which community pharmacy is convenient for you
- → Once you (or your carer/relative) have given consent, a copy of your discharge summary with information about your medicines will be sent to your nominated community pharmacy through a secure electronic system
- → The community pharmacy will compare your medicines at discharge to those you were taking before admission to hospital. They will check you are taking the right medications when they receive any new prescriptions from your GP
- → Once you are home from hospital, your community pharmacy may contact you to arrange a convenient time to discuss your medicine

During the consultation with your community pharmacist, you may discuss:

- Newly prescribed medicines
- Look at any changes to existing medicines that were made during your stay in hospital
- Review all your medicines
- What each medicine is for, common side effects and how to take them safely
- Any questions you have about your medicines

Where can I get further information and support?

If you need further information about this service or your medicines once you've been discharged hospital, please contact Kingston Hospital medicines information helpline **020 8546 7711 ext. 2092**, 9am – 5pm Monday to Friday or your nominated community pharmacy.

If you have a compliment, complaint, or concern, please contact our Patient Advice and Liaison Service (PALS) team by telephone on **0208 934 3993** and by email on khft.pals@nhs.net

If you would like this leaflet in a different language or format, please speak to your nurse, doctor, or pharmacist.

Intervention case study examples

Throughout the project, the cardiac MMPT recorded specific examples of interventions that were made to improve patient safety. The interventions that have been made demonstrate the benefit of the MMPT undertaking a more clinically focused role.

1. A patient was admitted to the cardiology ward with a compliance aid. During the early stages of admission two medication changes were made. The next of kin expressed concerns about the supply of medicines on discharge and how the community pharmacy would be made aware of the changes. The cardiac MMPT explained the DMS service process to the relative and reassured them the changes would be communicated to the community pharmacy and GP. The MMPT contacted the nominated community pharmacy to inform them that the patient was in hospital and had changes to their regular medicines and that she would contact them once the patient has been discharged. The MMPT asked the community pharmacy to pause the current supply of blister packs and to ensure the next supply of compliance aids reflected the changes. The MMPT then informed the next of kin that she had contacted the community pharmacy to inform them of the changes. The next of kin was grateful and appreciated the efficiency of the hospital pharmacy service to ensure a smooth transfer of care. Once the patient was ready to be discharged, the cardiac MMPT counselled the patient on medication changes and referred them to their community pharmacy for follow up via PharmOutcomes®.

2. A patient had been discharged from the cardiology ward over the weekend without their medicine supply. This was an error in procedure by the cardiology ward team. As the discharge took place on the weekend, the cardiac MMPT and cardiology pharmacist were not present to support the discharge service. The patient contacted the ward the following day to inform them that he had no medicines at home and did not receive any to take home when he was discharged. The patient was very unhappy and was confused about what medicines he was supposed to be taking as there had been several changes. The nursing staff chose to taxi the medication to the patient's home to ensure medicines were supplied as soon as possible. On the next working day, the nursing staff on the cardiology ward explained the situation to the cardiac MMPT and asked them to contact the patient to counsel them on their new, changed and stopped medicines as per their discharge plan. The MMPT called the patient at their home and went through the list of medicines one by one, including dosage, frequency, indication, side effects and counselling points. The MMPT gave the patient an opportunity to ask any questions and provided relevant contact details if further assistance was required. The patient was satisfied with the service and was appreciative of the cardiac MMPT for following up to ensure prescribed medicines had been explained. This also highlighted the unsafe discharge process of medications being sent out to patients by taxi and the risks this poses to patients.

3. A patient on the cardiology ward had been newly diagnosed with HfrEF and was discharged on several medications, including Furosemide 40mg. The patient was in their late 50’s and highlighted they had a busy active lifestyle which included travelling to run a business. Therefore, during counselling, the patient expressed concerns about frequent urination being a problem when taking Furosemide as workdays often consist of meetings and travel. The MMPT and patient discussed the option of taking the Furosemide in the afternoon, instead of the morning to avoid having to make several trips to the bathroom and disrupt work lifestyle. The patient agreed with this and said this would be more convenient. During the consultation, the MMPT emphasised the importance of not missing a dose as this can cause fluid retention and may result in readmission to hospital.

4. A patient was being discharged from the cardiology ward and had been newly started on Bumetanide to be taken twice a day. The nurse in charge had advised the patient to take the Bumetanide 12 hours apart, in the morning and evening. During the pharmacy consultation, the MMPT explained to the patient that it would be best to take the Bumetanide in the morning and lunchtime to avoid having to urinate at night.

5. A patient had been newly diagnosed with ACS and was counselled by the MMPT on newly prescribed antiplatelet medication. The MMPT explained the durations for aspirin, clopidogrel and ticagrelor were one year only and that after this they should continue taking daily aspirin 75mg which will be lifelong. An antiplatelet card was also issued to the patient and the MMPT explained that the card must be carried by the patient at all times as it contained important information about what antiplatelet medicines are being taken and the expected length of treatment. The MMPT also explained that having the details of the antiplatelet medicines available on the card can help communicate this to healthcare professionals in cases of prolonged bleeding or surgical procedures.

6. A patient was newly started on Amiodarone and was counselled by the MMPT on the adverse effects. The MMPT pointed out that Amiodarone can have an effect on vision and asked the patient if they drove, which they did. The MMPT explained that driving at night can be affected by headlights appearing blinding as a side effect of Amiodarone and suggested that they should avoid driving in the dark where possible.