Refer to Pharmacy

Patient support with medications after hospital discharge

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Community Pharmacy Humber

YORKSHIRE & HUMBER ACADEMIC HEALTH SCIENCE NETWORK

NHS Hull University Teaching Hospitals NHS Trust

Agenda

7:10pm	Background and Aims
7:20pm	What happens at the hospital
7:30pm	How to action referrals in Community Pharmacy
7:45pm	Breaking down barriers
8:00pm	Case Studies
8:20pm	Understanding Immediate Discharge Letter
8:30pm	Cardiology drug regimens and counselling points
8:50pm	Questions
9:00pm	Finish

Refer to Pharmacy

12 June 2019

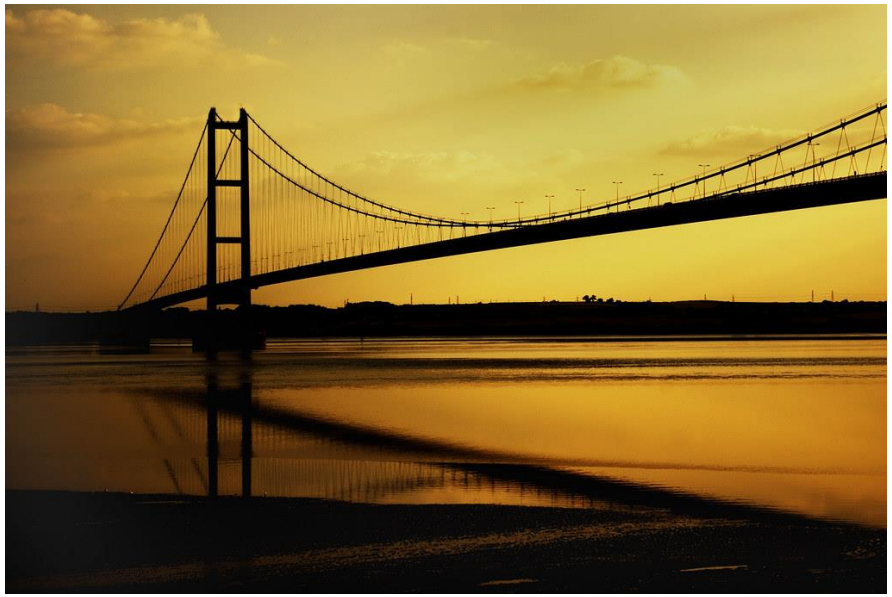
Khalida Rahman
Programme Manager, TCAM

YHAHSN

Our vision is to improve the health and prosperity of our region by unlocking the potential of new ideas.

We act as a bridge between healthcare providers, commissioners, academia and industry.

We connect these sectors to build a pipeline of solutions from research and product development through to Implementation and commercialisation.



Challenge

Medicines are the most used intervention in the NHS and a vital part of the delivery of modern health care, however, estimated total NHS spending on medicines in England has grown from £13 billion in 2010 to 18.2 billion in 2018, an average growth of 5% per year.

Adding to this, preventable harm costs the NHS over £2.5 billion a year.

Solution

The **NHS Long-Term Plan** recognises the challenges around the management of medicines and sets out plans to provide patients, leaving hospital, with extra support to take their prescribed medicines.

This is what the Refer to Pharmacy initiative is designed to tackle.

Impact

In 2018-2019, across Yorkshire and the Humber, **4806** referrals were completed via Refer to Pharmacy, contributing to savings of **£13.8 million**, reducing length of stay by **56,704** days and **1,004** fewer readmissions in 2018-19.

For 2019-20, savings of **£28.8 million** are projected, based on a reduction in length of stay of **113,406** days and **2,007** fewer readmissions.

Spread across YHAHSN

Trust	Platform	Status	Funding
Airedale	Web based	Going Live	Committed
Bradford	Web based	Going Live	Committed
Calderdale and Huddersfield	Partially integrated	Live	Paid
Harrogate	Web based	26/06/19	Planned
Mid Yorkshire	TBC	TBC	TBC
Leeds and York Partnership	Web based	Live	Paid
South West Yorkshire Partnership	Web based	02/07/19	Planned

Leeds Teaching Hospitals NHS Trust

YORKSHIRE & HUMBER
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Between August 2018 and February 2019 (7 months)

Activity	Totals
No of referrals	2,717
No of referrals acceptance	2,233
No of reviews completed	82%

Benefits to patients

Other additional services provided have included:

- Easy open tops
- Chart forms
- Easy open tops
- Home delivery
- Labels
- Medicines reconciliation
- Pharmacy managed repeats
- Public Health Interventions including flu vaccination and smoking cessation.

Actual Health System Indicative Savings

In 2018/2019 Hull received 111 referrals via the Refer to Pharmacy process.

No of completed referrals to date	Actual Trust Savings	Actual CCG Savings	Overall Cost Savings
111	£26,826	£28,902	£50,738

Indicative savings are based on:

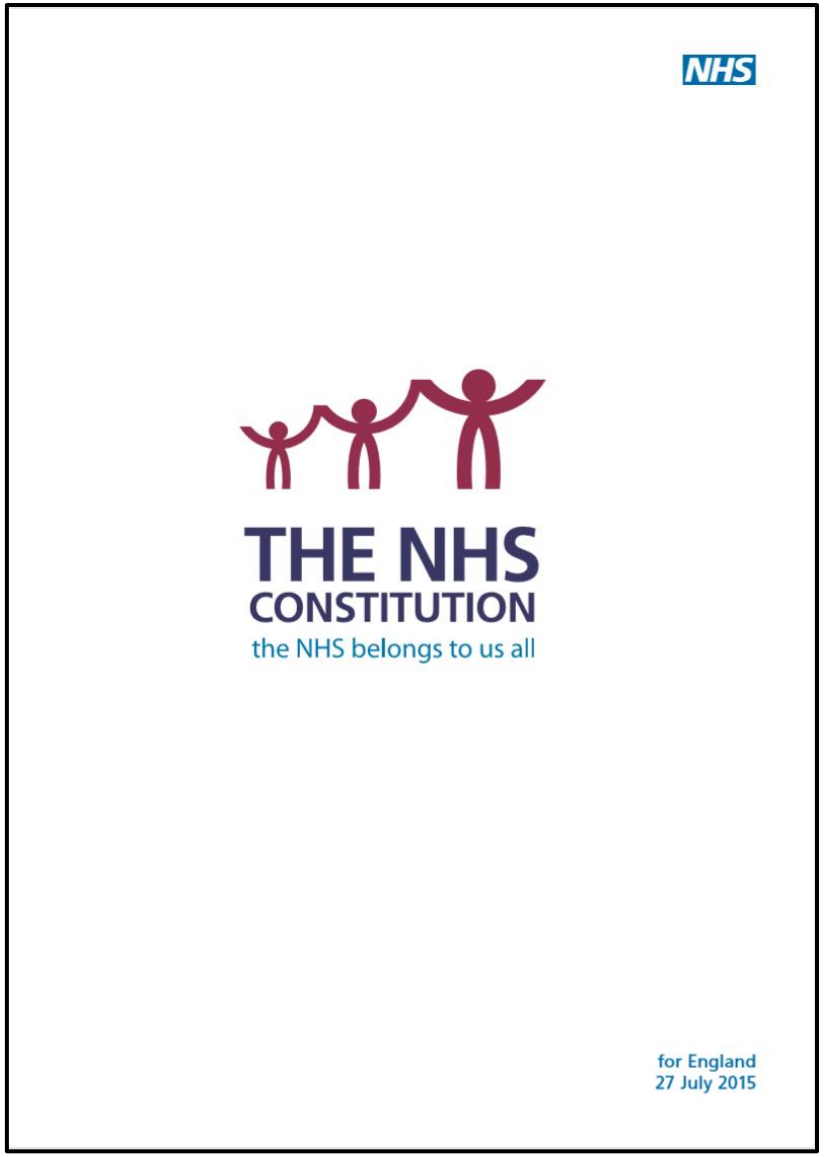
- Trust savings through reduced readmissions within 30 days
- CCG savings from reduced readmissions more than 30 days

Potential Health System Indicative Savings

Admissions	Number	Calculated	From Tables
Bed Days	260	£ 413,400	£ 413,400
	6584	£ 2,060,792	£ 2,060,792
		£ 2,474,192	£ 2,474,192
		Cash Savings	£ 806,784
		Capacity	£ 1,667,408
			£ 2,474,192

What is our ask?

The NHS belongs to us all and we each have a responsibility to maximise our NHS resources for the benefit of our community.



Further information (3.20 minutes)

Resources

YHAHSN website: https://www.yhahsn.org.uk/service/population-health-service/transfer-care-around-medicines/

Leeds Teaching Hospitals 'Connect with Pharmacy' http://www.leedsth.nhs.uk/a-z-of-services/pharmacy-services/connect-with-pharmacy/

BMJ Open - New transfer of care initiative of electronic referral from hospital to community pharmacy in England: https://bmjopen.bmj.com/content/6/10/e012532

PharmOutcomes slides: https://psnc.org.uk/wp-content/uploads/2016/12/PharmOutcomes-Smarter-referrals-manage-your-referrals-to-pharmacies...-in-no-time-at-all.pdf

Me and My Medicines: https://meandmymedicines.org.uk/

Refer to Community Pharmacy

- Pilot project since April 2016 on the cardiology wards at Castle Hill Hospital referring patients to their community pharmacy
- Improve transfer of care and clinical information between care settings
- Pick up on unintended discrepancies after discharge- medicines reconciliation
- Check post-discharge medicines adherence consultation and support with medication changes
- Update a patient's pharmacy record with medication changes to improve safety

Refer to Community Pharmacy

- Community Pharmacy Humber and Hull University Teaching Hospitals NHS Trust are working in partnership to expand
  the project.

- The project is supported and working in partnership with Yorkshire and Humber Academic Health Science Network (YHAHSN) – worked Leeds project and Calderdale

- Project designed to:
  - Improve the transfer of clinical information – copy of
    hospital discharge letter attached to referral
  - Expand the referral criteria
  - Expand the service to more wards and increase the referral numbers – business as usual
  - Increase awareness to community pharmacies

What happens at the hospital

- Identify a patient suitable for a refer to community pharmacy
- This process can take place at any opportunity during the admission:
  - During medicines reconciliation
  - At point of discharge

- Patient consent is obtained and documented on either:
  - Patient's drug chart or discharge prescription
  - Usual/chosen community pharmacy
  - Patient telephone number

- Once the patient is discharged from hospital
  - A referral is made and information entered on the PharmOutcome programme with 2-3 days after discharge

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Exit Logged in as: Yvonne Holloway from Hull and East Yorkshire Hospitals NHS Trust (Hull Royal Infirmary)

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Message color key: Requires Action Unread Message

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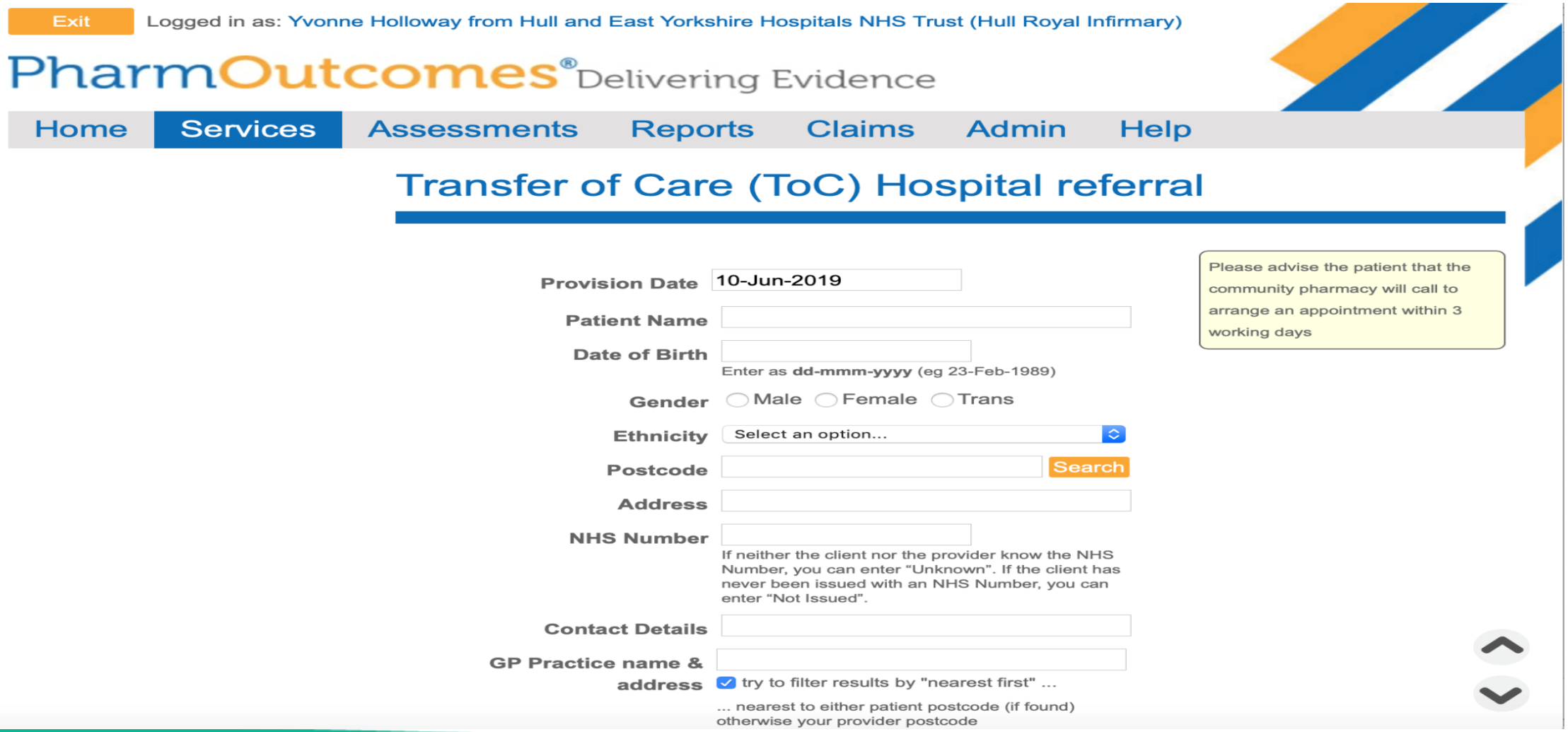

Remarkable people.
Extraordinary place.

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Consultant	
Allergies	
Medicines on discharge	Not in use yet
Reasons for changes	Not in use yet
	Include dose and formulation changes
Stopped medicines	Not in use yet
	Include rationale and recommendations
Name of pharmacy	
	Select pharmacy for onward referral
Consent to contact alternative pharmacy	◯ Yes ◯ No

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Referral to community pharmacy

Recommendations

- [ ] Review of medication (MUR)
- [ ] New Medication Started (NMS)
- [ ] Repeat dispensing service
- [ ] Home delivery service (if available)
- [ ] Stop smoking service - signpost to stop smoking service
- [ ] Flu vaccination (Sept to March)
- [ ] Medication stopped during admission
- [ ] On admission Monitoring Dosage System (NOMAD)
- [ ] domMAR (East Riding)
- [ ] MRC (Hull)
- [ ] Patient requires an inhaler technique check
- [ ] Patient has adherence/compliance problems
- [ ] Patient is confused about their medications
- [ ] Patient cannot manage packaging
- [ ] Patient cannot read normal labels
- [ ] Patient has stopped medications at home - signpost to bring back to the pharmacy

Tick ALL that apply

MUR for people at risk of problems with medicines after discharge because of social, physical or medicine factors. NMS eligible for all started medicines in the following groups: - Anticoagulants / Antiplatelets - Type 2 diabetes - Hypertension - COPD / Asthma

New medicine

State new medicine if referring for NMS

Additional Information / reason for referral

Notes

Please provide any further information that may be relevant

relevant

Please note the following discharge summary 'add' button is waiting approval from the IG committee and therefore must not be used until further notice.

Discharge Summary Add...

Completed by

Name

Job title

Contact number

Full external telephone number

Save and enter another Save

Referral Follow up in Community Pharmacy

- Community pharmacy receives an email (to the management e-mail address set up on PharmOutcomes), to inform them they have been sent a discharge notification/referral.

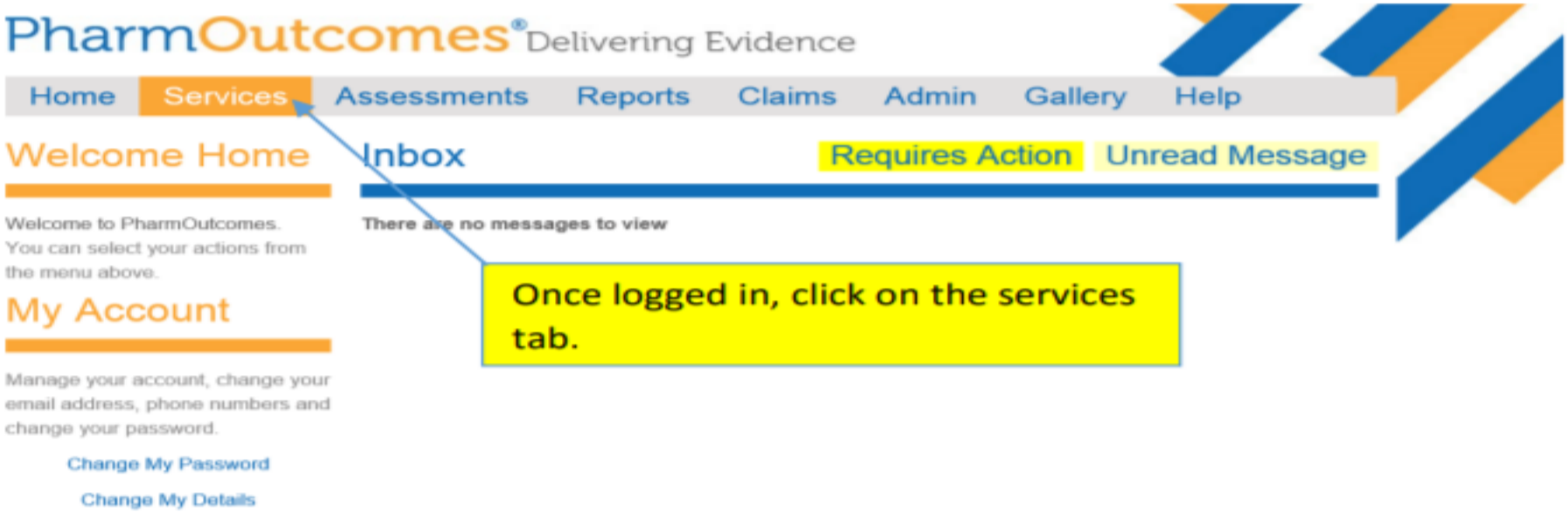
- Community Pharmacy to access referral:-
  - Log onto PharmOutcomes
  - Click ‘Services Tab’
  - Select the referral ‘Transfer of Care (ToC) Pharmacy Referral Follow up’.
  - Open and click to ‘accept’.
  - Can print off if wish

- Contact patient (within 3 days of receiving referral) and ask them to come in and bring their medication and/or Discharge letter

- Pharmacist provides support to patient e.g. reconcile medication, MUR or NMS* or signpost e.g. Stop Smoking Services.

- Pharmacist claims for any service done in usual way.

- Log back onto referral on PharmOutcomes, complete and save the record.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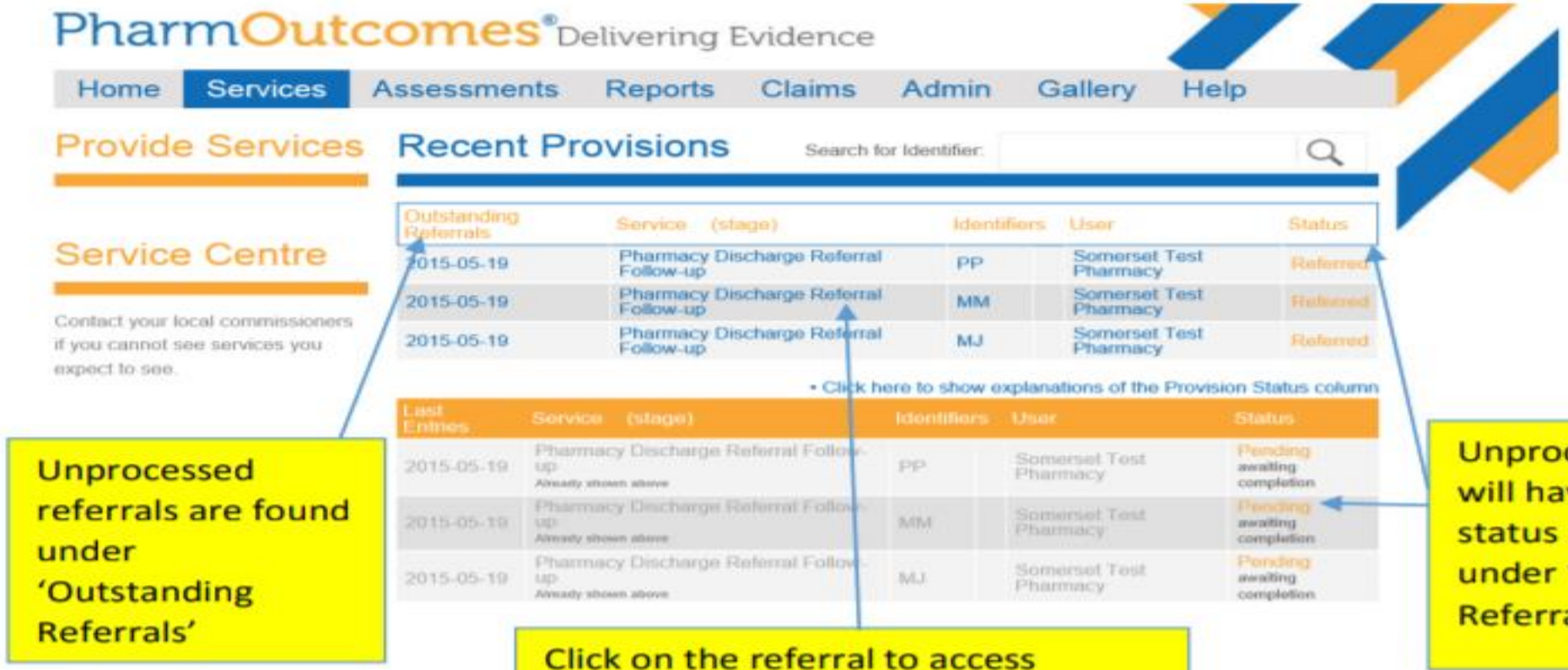
There are no messages to view
Once logged in, click on the services tab.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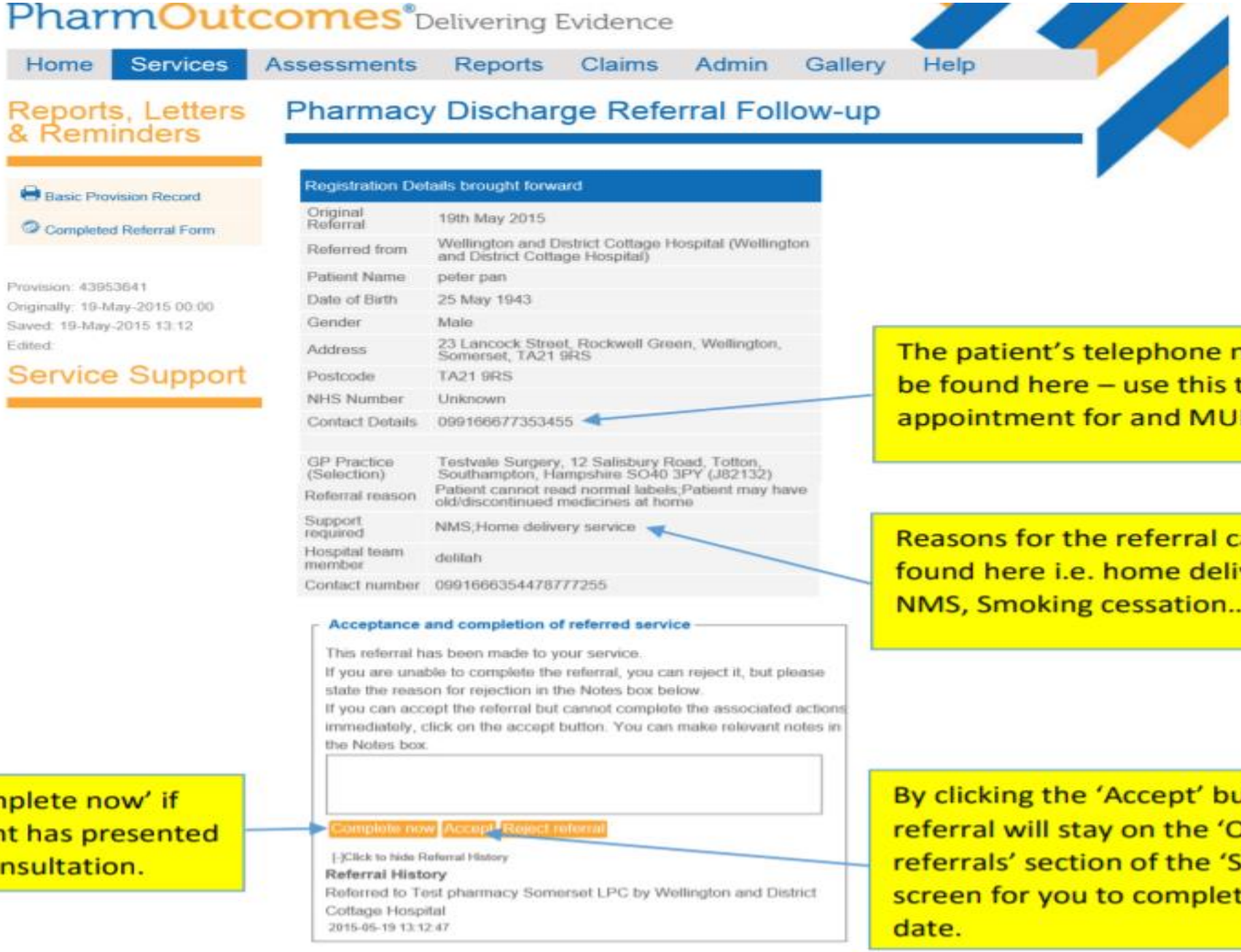
Service Centre
Contact your local commissioners if you cannot see services you expect to see.
Outstanding Referrals
Service (stage)
Identifiers
User
Status
2015-05-19
Pharmacy Discharge Referral Follow-up
PP
Somerset Test Pharmacy
Referred
2015-05-19
Pharmacy Discharge Referral Follow-up
MM
Somerset Test Pharmacy
Referred
2015-05-19
Pharmacy Discharge Referral Follow-up
MJ
Somerset Test Pharmacy
Referred
• Click here to show explanations of the Provision Status column
Last Entries
Service (stage)
Identifiers
User
Status
2015-05-19
Pharmacy Discharge Referral Follow-up
Already shown above
PP
Somerset Test Pharmacy
Pending awaiting completion
2015-05-19
Pharmacy Discharge Referral Follow-up
Already shown above
MM
Somerset Test Pharmacy
Pending awaiting completion
2015-05-19
Pharmacy Discharge Referral Follow-up
Already shown above
MJ
Somerset Test Pharmacy
Pending awaiting completion
Unprocessed referrals are found under 'Outstanding Referrals'
Click on the referral to access information
Unprocessed referrals will have a 'Pending' status and remain under 'Outstanding Referrals'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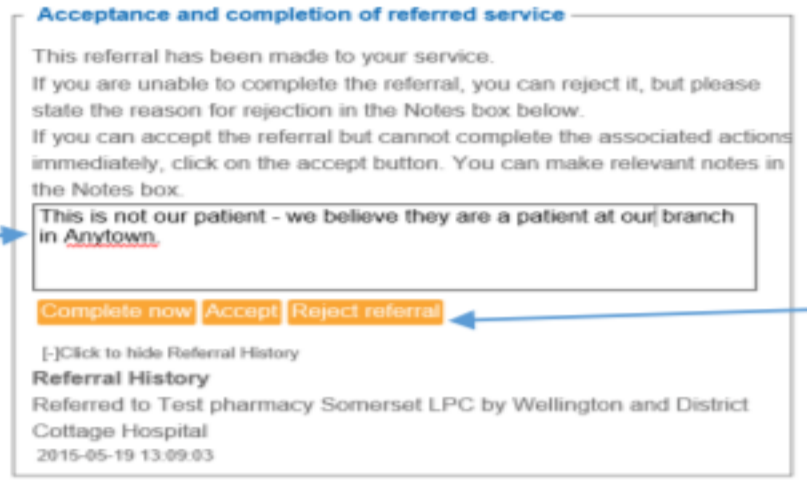
Basic Provision Record
Completed Referral Form
Provision: 43953641
Originally: 19-May-2015 00:00
Saved: 19-May-2015 13:12
Edited:
Service Support
Pharmacy Discharge Referral Follow-up
Registration Details brought forward
Original Referral 19th May 2015
Referred from Wellington and District Cottage Hospital (Wellington and District Cottage Hospital)
Patient Name peter pan
Date of Birth 25 May 1943
Gender Male
Address 23 Lancock Street, Rockwell Green, Wellington, Somerset, TA21 9RS
Postcode TA21 9RS
NHS Number Unknown
Contact Details 0991666677353455
GP Practice (Selection) Testvale Surgery, 12 Salisbury Road, Totton, Southampton, Hampshire SO40 3PY (J82132)
Referral reason Patient cannot read normal labels;Patient may have old/discontinued medicines at home
Support required NMS;Home delivery service
Hospital team member delilah
Contact number 09916663544787777255
Acceptance and completion of referred service
This referral has been made to your service.
If you are unable to complete the referral, you can reject it, but please state the reason for rejection in the Notes box below.
If you can accept the referral but cannot complete the associated actions immediately, click on the accept button. You can make relevant notes in the Notes box.
Complete now
Accept
Reject referral
[-]Click to hide Referral History
Referral History
Referred to Test pharmacy Somerset LPC by Wellington and District Cottage Hospital
2015-05-19 13:12:47
The patient's telephone number can be found here – use this to make an appointment for and MUR/NMS.
Reasons for the referral can be found here i.e. home delivery, MUR, NMS, Smoking cessation…
Click 'Complete now' if the patient has presented for the consultation.
By clicking the 'Accept' button the referral will stay on the 'Outstanding referrals' section of the 'Services' screen for you to complete at a later date.

Sometimes, a referral may need to be rejected, for instance, if the patient referred does not belong to your pharmacy.

Ensure you write a reason for the rejection.



Once you have written a reason, click on 'Reject Referral' – this will then send the referral back to the hospital for action.

Follow up date 31-Mar-2016

Referral date

Enter as **dd-mmm-yyyy** (eg 23-Feb-1989)

Long term condition

Select patient's underlying condition(s)

- ☐ Respiratory
- ☐ CVD
- ☐ Diabetes
- ☐ Other

Service Outcomes

Better understanding of medicines' use ◯ Yes ◯ No

Check patient understanding of meds

Better understanding of when to take medicines ◯ Yes ◯ No

Is patient taking correct dose

Better understanding of how to take medicines ◯ Yes ◯ No

e.g. inhaler technique

Advice given about medical condition ◯ Yes ◯ No

General patient feedback

Please record patient's comments about the service, e.g. useful after discharge, repetition of information already received, etc.

Side effects

Has the patient experienced an ADR? ◯ Yes ◯ No

Detail of any side effects/ADRs

Outcomes of ADR

- ☐ Manageable and non-harmful - patient to continue
- ☐ Patient stopped taking medicine
- ☐ Refer to GP
- ☐ Refer to hospital
- ☐ Not Applicable - No ADRs

Pharmacy actions

Changes made and advice provided and

reason

This information is essential for service evaluation

Please provide RiO score

- ◯ RiO 1 - no likelihood of admission
- ◯ RiO 2 - possible admission
- ◯ RiO 3 - likely admission

An explanation of the RiO score and examples of actions / advice related to each score can be found here

Audit of services provided

Services provided

- ☐ MUR
- ☐ NMS
- ☐ Home delivery service
- ☐ Stop smoking service
- ☐ Flu vaccination (Sept - March)
- ☐ Other

Tick all that apply, if Other please specify

Audit of support provided - Tick all that apply

Support services provided

- ☐ Medicines reconciliation - Do not tick if meds already reconciled
- ☐ Large print labels
- ☐ Talking labels
- ☐ Easy open tops
- ☐ Review dose form
- ☐ Review MDS arrangements
- ☐ MAR chart provided
- ☐ MDS
- ☐ Repeat dispensing
- ☐ Home delivery
- ☐ Other [ ]
- ☐ None

Tick ALL that apply. If Other please specify

Service complete

Has the service been completed e.g. MUR?

- ◯ Complete - return information to hospital
- ◯ Complete - no hospital follow up required

Please tick return info to hospital if e.g. patient experiences intolerable ADRs, adjustments are made, inhaler technique has been checked, confirmation that a dose has been titrated

Intervention completed by

Pharmacist Name [ ]

GPhC number [ ]

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Setting up Management e-mail address

Log onto PharmOutcome
On Homepage underneath ‘My Account’
Click ‘update my organisation details’
Check the ‘management e-mail’ is correct
Confirm any changes made.

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Exit Logged in as: Karen Murden from Community Pharmacy Humber

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Not Yet Actioned | Not Yet Read

Click here to send a new message ▶

▼ Two Months Ago (3 messages)

Caroline Hayward 0% ♦♦♦♦♦♦♦♦♦♦ (0/2 Actioned)	**ACT service: Failure to return contract extension acceptance** (Sent 2019-04-30 14:59:00) *North East Lincolnshire ACT service provider. (Current contract in place until*
Caroline Hayward 35% ♦♦♦♦♦♦♦♦♦♦ (76/220 Actioned)	**MEDIA ACTIVITY: Urgent : Pharmacy BP testing service Official launch TODAY** (Sent 2019-04-10 09:57:00) *To all pharmacies I wanted to let you know that the Hull and East Riding*
Caroline Hayward 67% ♦♦♦♦♦♦♦♦♦♦ (26/39 Read)	**Is your pharmacy ready for the official media launch of BP testing service** (Sent 2019-04-09 16:16:00) *Dear All I wanted to let you know that the Pharmacy BP testing service will be*

▶ Older than 3 months (11 messages)

▶ Over a year old (27 messages)

▶ Draft - Not sent yet (6 messages)

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Community Pharmacy Humber Ltd
[LPC Commissioner]

MultipleServices
220 Providers (269 Licensed)
in 3 Data areas (209 Accredited)
Expires: 2020-03-31
✖ *Miquest Imports*
✔ *SMS Enquiry*
✔ *SMS Reminders*
✖ *0 PharmAlarms*
[+] Click to show Licensed organisations

Check Your Details

The system will periodically check with you for certain details. We understand this can be an annoyance in a busy day, but hopefully a quick check is all that is needed. **Bold fields** are important for both governance and financial reasons and we hope that you will be able to complete them so that we can help you stay compliant.

Organisation Name: Community Pharmacy Humber

Address: Unit 3
Albion House
Albion Lane
Willerby
Hull
HU10 6TS

If any of the above information is not correct, you should contact the helpdesk who can amend this if needed.

Vital Information

Management Email: humber.lpc@nhs.net

Secure Email: humber.lpc@nhs.net
E.g. an NHS.NET email address in case we need to query sensitive details

Telephone Number: 01482 335824

Data Protection Officer Information

Contact Telephone: 01482 335824
Data Protection Officer telephone number

Contact Email: janet.clark8@nhs.net
This is the email address we will use to communicate with your Data Protection Officer.

For ICO Guidelines click here.

GDPR Information

Contact Email: janet.clark8@nhs.net
This is the email address we will use to communicate with your main GDPR contact.

Save details

Medicines Use Review (MUR)

National contract for Community Pharmacy-Advanced Services

Review of a patient's medicines to ensure they understand how to use their medicines and why they should take them.

70% of MURs done should be within MUR target groups

- **High risk medicines** (Diuretics, NSAIDS, Anticoagulants and Antiplatelets)
- **Respiratory** (taking 2 or more medicines including 1 for Asthma and COPD)
- **Post-discharge** (taking 2 or more medicines within 8 weeks of discharge and had medicines changed in hospital)
- **Cardiovascular Risk** (taking 4 or more drugs including cardiovascular, thyroid or diabetes)

New Medicine Service (NMS)

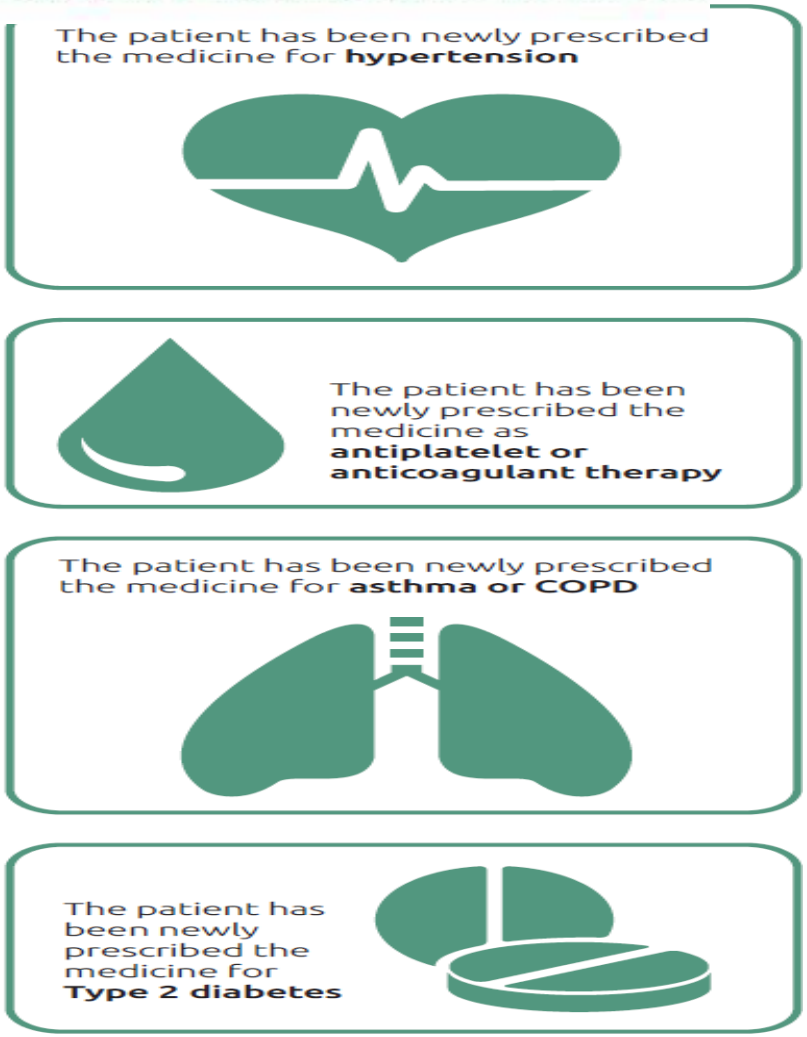
National contract for Community Pharmacy -Advanced Services

- Available to patients who are newly prescribed a medicine for certain long term conditions.
- First time the patient presents with prescription for new medication in Community pharmacy or patient has been referred by a healthcare professional at the hospital that has already dispensed the new medicine (inpatient or outpatient).
- Improves medicines adherence by 10% *

*2017 University College London and Universities of Nottingham and Manchester

NMS Condition/therapy a

- Hypertension
- Antiplatelet or anticoagulant therapy
- Asthma or COPD
- Type 2 diabetes

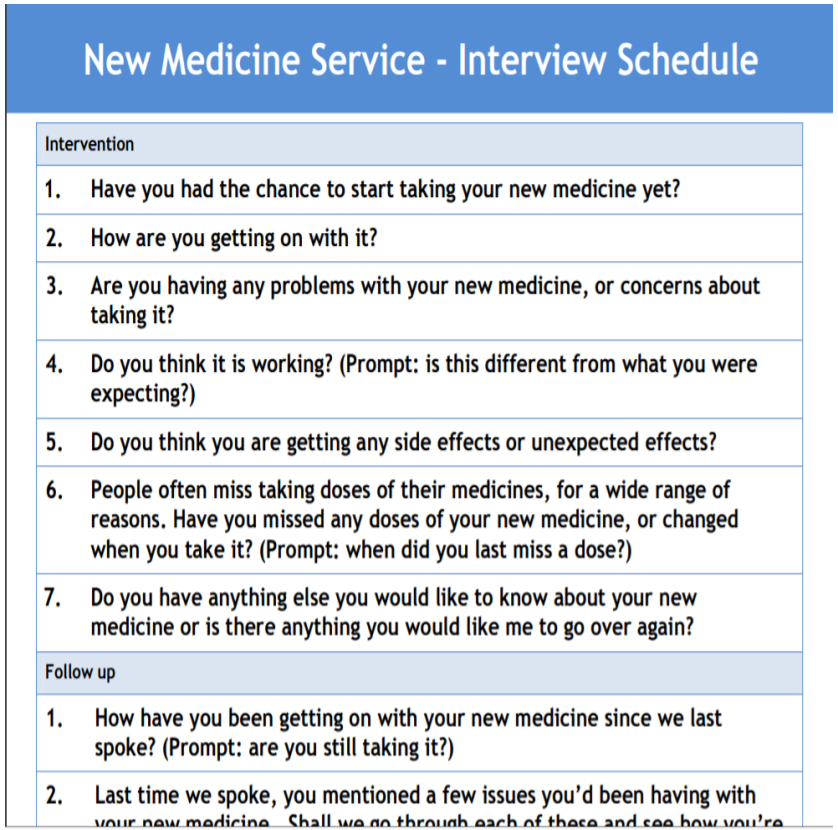


NMS Outline Service Spec

Three Stage Process

- Patient Engagement (Day 0)
- Intervention (approx day 14)
- Follow up (approx day 28)

Opportunity to provide healthy living advice at each stage.



New Medicine Service - Interview Schedule

Intervention	
1.	Have you had the chance to start taking your new medicine yet?
2.	How are you getting on with it?
3.	Are you having any problems with your new medicine, or concerns about taking it?
4.	Do you think it is working? (Prompt: is this different from what you were expecting?)
5.	Do you think you are getting any side effects or unexpected effects?
6.	People often miss taking doses of their medicines, for a wide range of reasons. Have you missed any doses of your new medicine, or changed when you take it? (Prompt: when did you last miss a dose?)
7.	Do you have anything else you would like to know about your new medicine or is there anything you would like me to go over again?
Follow up	
1.	How have you been getting on with your new medicine since we last spoke? (Prompt: are you still taking it?)
2.	Last time we spoke, you mentioned a few issues you'd been having with your new medicine. Shall we go through each of these and see how you're

RiO Scoring

A scale used to determine the likelihood of readmission prevention based on the RiO healthcare management system (if intervention hadn't taken place)

- RiO 1 – no likelihood of re-admission
- RiO 2 – possible re-admission e.g. forgetting to use inhalers and poor technique
- RiO 3 – likely readmission if pharmacist had not intervened.

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Improvement Academy

Breaking Down Barriers
Challenges and Successes

12 June 2019

Khalida Rahman
Programme Manager

Activity: Experiences

- What is your experience of using ReferToPharmacy?
- What has gone well?
- Why did it go well?
- What challenges have you encountered?
- How have you overcome these?
- What might have helped at the time?
- What might you do differently next time?
- How can we work together overcome the barriers?

Summary of feedback from audience

Feedback from Calderdale and Huddersfield

- A faster, more secure route to refer our patients (GDPR compliant)
- Time saving across the department
- Helps to identify problems such as delays in the discharge system.
- Better information about changes to medication out to our colleagues in community pharmacy
- Helping to reduce readmissions and visits to the accident and emergency department.
- Identifies errors made between hospital and pharmacies to aid learning of staff where themes have been identified.

Read the case study here

Feedback from Community Pharmacists across West Yorkshire

90% of community pharmacists state that Refer to Pharmacy has improved the information provided to patients.

90% of community pharmacists state that Refer to Pharmacy has improved their relationship with the patient/customer.

One community pharmacist said “We need to increase numbers to improve patient safety”.

Case studies

Immediate Discharge Letter(IDL)

- Key headings:
  - Presenting complaint/reason for admission
  - Diagnosis at discharge
  - Secondary diagnosis – past medical history
  - Significant operations/procedures and treatments
  - Relevant results – blood results, chest x-ray, ECHO report
  - Actions to be completed by GP – U&E's in 1 week
  - Actions to be completed by the secondary care provider – o/p appointment
  - Clinical narrative/findings – happened, outcome??
  - Allergies , active alerts, AKI, RESPECT, weight

Immediate Discharge Letter(IDL)

Key headings:

Prescription medications listed on different sections for:

- Newly Prescribed/ medication – started during admission
- Modified Prescription/medication – dose, frequency, form changed
- Stopped Medication – discontinued, withheld and GP to re-start
- Unchanged Medication – pre-admission
- Clinically verified – this will contain the pharmacists name or initials

Cardiology referrals

- Main clinical conditions and referrals
  - ST-segment elevation myocardial infarction (STEMI)
  - Non ST-segment elevation myocardial infarction (NSTEMI)
  - Atrial fibrillation
  - Heart failure
  - Post coronary artery bypass graft (CAGB)
  - Valve replacements

- Discuss in this session
  - ST-segment elevation myocardial infarction (STEMI)
  - Non ST-segment elevation myocardial infarction (NSTEMI)
  - Anticoagulation with DOAC's

STEMI/NSTEMI – standard drug regimes

- 4 types of medication
  - Dual antiplatelet therapy
  - ACE-Inhibitors
  - Beta-blockers
  - Statins
  - GTN spray

- Shown to reduce cardiovascular risk in post-MI patients

- These benefits are in addition to risk factor management:
  - Diet
  - Lifestyle – stopping smoking, reduced alcohol intake
  - Exercise

STEMI/NSTEMI – standard drug regimes

Long term management and secondary prevention

- **Dual antiplatelet therapy (DAPT)**
  - **Aspirin 75mg od – lifelong**
  - **Ticagrelor 90mg bd for 12 months**
  - clopidogrel or prasugrel may be used where ticagrelor is not tolerated due to side-effects of shortness of breath, bradycardia and long pauses on ECG

- Premature discontinuation of antiplatelet therapy can result in **stent thrombosis with high mortality.**
- DAPT is for 12 months after PCI with stent intervention
  - Early discontinuation would only be recommended via cardiology interventionists i.e. bleeding complications or elective surgery

STEMI/NSTEMI – standard drug regimes

- **ACE- Inhibitor**
  - **ramipril od or bd, enalapril bd in LV dysfunction**
  - initiated within first 24 hours
  - general start low-dose and titrated to target dose if tolerated
  - Titration with in outpatients or by GP
  - Evidence shows reduces mortality and morbidity post MI in patients with LV dysfunction and no LV dysfunction
  - **ARB – acceptable alternative in side-effects to ACEI (cough)**
- **Beta-blocker**
  - **bisoprolol od or bd and timolol bd, Carvedilol bd in LV dysfunction**
  - Try in patients with asthma/COPD and monitor for shortness of breath
  - Evidence shown to reduce all cause mortality post MI regardless of LV function

STEMI/NSTEMI – standard drug regimes

- **Statin therapy – high intensity post MI**
  - Atorvastatin 80mg od
  - All post- MI patients appear to benefit regardless of lipid levels
  - Monitor for side-effects of muscle aches and pains and sleep disturbance
  - Optimal target levels – Total cholesterol ≤4mmol/L and LDL-c ≤2 mmol/L
- **Aldosterone antagonist**
  - Selective patients post MI ECHO shows moderate to severe LV dysfunction(LVEF≤ 40%)
  - Initiated Eplerenone 25mg od
  - Evidence shows reduces all-cause mortality in patients LV dysfunction post MI
- **Glyceryl trinitrate (GTN) spray /tablets – ACS protocol for discharge in all post-MI patients**

STEMI/NSTEMI – TRIPLE THERAPY

- **Triple therapy – 2 antiplatelets + anticoagulant therapy**
- STEMI/NSTEMI complicated by further diagnosis of:
  - atrial fibrillation
- Alters the duration of dual antiplatelet therapy
  - **Ticagrelor is switched to clopidogrel (reduced bleeding risk)**
- Most common combination:
  - **Aspirin 75mg od for ONE month + clopidogrel lifelong + DOAC lifelong**
  - **Aspirin 75mg od for ONE month + clopidogrel for 12 months + DOAC lifelong**
  - **Aspirin 75mg od for ONE month + clopidogrel + warfarin**
- Initiated under the advice of the cardiology interventionist
  - Durations documented on IDL, GP receives copy of the Cath lab report/plan

Key Counselling points

- **Dual antiplatelet therapy**
  - Adherence really important - premature discontinuation can results in stent thrombosis with high mortality
  - Safety netting for bleeding risk - warning signs i.e bleeding gums, excessive bruising, blood in urine, blood in phlegm

- **ACE- Inhibitor**
  - Dose is likely to be increased by your GP or consultant
  - General side-effects - dry cough

- **Beta-blocker**
  - Dose is likely to be increased by your GP or consultant
  - General side-effects – fatigue, sleep disturbance

Key Counselling points

- **Statin therapy**
  - Bad press – positive aspects of statins
  - Monitor for side-effects of muscle aches and pains and sleep disturbance
  - Blood tests at 3 months
  - Lipid soluble/water soluble statins – try alternative side-effects
  - Optimal target levels – Total cholesterol ≤4mmol/L and LDL-c ≤2 mmol/L, non-HDL-c ≤2
- **GTN spray – 10 minute rule – experiencing chest pain (angina), chest ache, or chest discomfort:**
  - **Stop what you are doing and sit down and rest**
  - **If pain persists, use 1 spray under your tongue and wait 5 minutes**
  - **If pain still present, use another spray and wait 5 minutes**
  - **If pain is still present, Ring 999 and unlock door**
  - **Monitor during consultation how often a patient is using their spray**

Anticoagulation Update

Why are DOACS so appealing compared to warfarin

Warfarin is HIGH MAINTENACE	DOACS are MORE PREDICTABLE
VITAMIN K	NOT IMPACTED BY DIETARY VITAMIN K
NARROW THERAPEUTIC INDEX	MORE CONSISTENT PHARMACOKINETICS
MANY DRUG INTERACTIONS	FEWER DRUG INTERACTIONS
DELAY PHARMACODYNAMICS ONSET	RELATIVELY QUICK ONSET OF ACTION
	NOT ALL REQUIRE HEPARIN ADMINISTRATION PRIOR TO USE FOR VTE

Current oral anticoagulant indications

Anticoagulants	VTE PREVENTION	VTE TREATMENT PE/DVT	NON-VALVULAR AF	MECHANICAL HEAT VALVE
Apixaban (Eliquis®)	√ (hip +knee)	√	√	No
Dabigatran (Pradaxa®)	√ (hip +knee)	√	√	No
Rivaroxaban (Xarelto®)	√ (hip +knee)	√	√	No
Edoxaban (Lixiana)	√ (hip +knee)	√	√	No
Warfarin	√ (hip +knee)	√	√	√

PRESCRIBING considerations with DOACs

- Renal function
- Age
- Weight
- Drug Interactions

FACTORS TO CONSIDER WHEN SELECTING THE DOSE and PREPARATION

- Impact on adherence factors

- General patient care
  - Concurrent antiplatelet agents
  - Oncology/or thrombophilia patients
  - Decreased patient contact – due to removing INR monitoring visit

Community Pharmacy Humber

YORKSHIRE & HUMBER ACADEMIC HEALTH SCIENCE NETWORK

NHS Hull University Teaching Hospitals NHS Trust

Apixaban

Treatment Indication		Dosing Schedule	Duration
Treatment of DVT or PE		10mg BD for the first 7 days Followed by 5mg BD for 6 months*	
Prevention of recurrent DVT and/or PE **following completion of 6 months of treatment** for DVT or PE		2.5mg BD	Lifelong
Prevention of Stroke and systemic embolism in patients with non-valvular atrial fibrillation	Normal renal function	5mg BD	Lifelong
	CrCl=15-29ml/min or **any 2 of the following**: • Age >80 years • Weight <61kg • Serum Creatinine >133micromol/L	2.5mg BD	Lifelong
Prevention of VTE following elective hip and knee surgery	Hip replacement	2.5mg BD	32-38 days
	Knee replacement	2.5mg BD	10-14 days

Table 1. Apixaban Dosing Schedules based upon indication[2,3]

*can be for a shortened duration of 3 months – clinical decision to be made based on if DVT/PE was provoked and patients individual risk factors

Note: Apixaban is contraindicated if CrCL<15ml/min

Strengths Available : 2.5mg, 5mg[2]

Remarkable people. Extraordinary place.

Rivaroxaban

Treatment Indication		Dosing Schedule	Duration
Treatment of DVT or PE		15mg BD for the first 21 days Followed by 20mg OD for 6 months*	
Following 21 day loading period if CrCl = 15 - 49ml/min reduce dose		15mg OD	
Prevention of recurrent DVT and/or PE **following completion of 6 months of treatment** for DVT or PE		10mg OD**	Lifelong
Prevention of Stroke and systemic embolism in patients with non-valvular atrial fibrillation	Normal renal function	20mg OD	Lifelong
	CrCl=15-49ml/min	15mg OD	Lifelong
Prevention of VTE following elective hip and knee surgery	Hip replacement	10mg OD	35 days
	Knee replacement	10mg 0D	14 days

Table 2. Rivaroxaban Dosing Schedules based upon indication[3,4]

*can be for a shortened duration of 3 months – clinical decision to be made based on if DVT/PE was provoked and patients individual risk factors

**Long term prevention dose can be increased to 20mg OD if patient is at high risk of recurrence

Note: Rivaroxaban is contraindicated if CrCl<15ml/min

2.5mg Dose is available for use in ACS patients. Not currently used at HEY.

Strengths Available : 2.5mg, 10mg, 15mg, 20mg[2]

Edoxaban

Strengths Available : 30mg, 60mg[3]

Treatment Indication		Dosing Schedule	Duration
Treatment of DVT or PE		60mg OD following 5 days IV anticoagulation	6 months
Prevention of recurrent DVT and/or PE **following completion of 6 months of treatment** for DVT or PE		60mg OD	Lifelong
• CrCl = 15-50ml/min • Low body weight <60kg • Concomitant use of potent P-gp inhibitors; such as ciclosporin, dronederone, erythromycin or ketoconazole		30mg OD	Lifelong
Prevention of Stroke and systemic embolism in patients with non-valvular atrial fibrillation	Normal renal function	60mg OD	Lifelong
	• CrCl = 15-50ml/min • Low body weight <60kg • Concomitant use of potent P-gp inhibitors; such as ciclosporin, dronederone, erythromycin or ketoconazole	30mg OD	Lifelong

Table 4. Edoxaban Dosing Schedules based upon indication[3,6]
Note: Dabigatran is contraindicated if CrCl<15ml/min

Dabigatran

Strengths Available : 75mg, 110mg, 150mg[2]

Treatment Indication		Dosing Schedule	Duration
Treatment of DVT or PE		150mg BD* following 5 days IV anticoagulation	6 months
• CrCl=15-29ml/min • Age >80 years • Concomitant Verapamil		110mg BD following 5 days IV anticoagulation	6 months
Prevention of recurrent DVT and/or PE **following completion of 6 months of treatment** for DVT or PE		150mg OD*	Lifelong
Prevention of Stroke and systemic embolism in patients with non-valvular atrial fibrillation	Normal renal function	150mg (2x75mg) BD	Lifelong
	• CrCl=30-50ml/min • Age >80 years • Concomitant Verapamil	110mg BD	Lifelong
Prevention of VTE following elective hip and knee surgery	Hip replacement	110mg 1-4 hours post-op then 220mg (2x110mg) OD thereafter**	28-35 days
	Knee replacement		10 days

Table 3. Dabigatran Dosing Schedules based upon indication[3,5]

*Reduce dose to 110mg BD if aged over 80 years or concomitant Verapamil or Amiodarone

**Reduce dose to 150mg if patient is aged over 75 years, concomitant Verapamil or Amiodarone or CrCl=30-50ml/min

Note: Dabigatran is contraindicated if CrCl<30ml/min

As Dabigatran 150mg capsules are only licensed for use in SpAF 2x75mg capsules are to be used in orthopedic cases and for reduced dosing in DVT/PE when required

Side Effects of DOACS

- Common side-effects
  - Indigestion, nausea and stomach pains
- Patients should be aware of the following and seek medical advice:
- Severe or spontaneous bruising or unusual headaches
- Epistaxis (Prolonged nose bleeds more than 10 minutes)
- Haematuria (Red or dark brown urine – Blood in urine)
- Haemoptysis (Coughing up blood or coffee ground like substance)
- Bleeding Gums
- Haematemesis (Vomiting blood)
- Malena (Red or black tarry stools)
- Abnormal heavy periods in women or unexpected vaginal bleeding[9]

DOAC Drug Interactions

- Drug interactions that can:
  - Reduce or increase DOAC blood concentrations
  - Reduces concentration – decreases treatment efficacy and stroke prevention is reduced
  - Increase concentration – increases patients risk of bleeding
- Pharmacist and doctors consider the patients current medications history
  - Prescribed medication
  - Bought over the counter medications
- Food and alcohol
  - Not affected by vitamin K – foods containing this do not need to be regulated
  - Alcohol intake should be moderate – increased alcohol use increases gastric acid and irritation of the gastric mucosa – potential GI bleed

ANTICOAGULANT COMPARISON: DRUG INTERACTIONS

	Dabigatran	Rivaroxaban	Apixaban	Edoxaban
Ketoconazole	Avoid	Avoid	Avoid	Avoid
Clarithromycin	No adjustment	Precaution	Avoid	Avoid
Erythromycin	Precaution	Precaution	Precaution	Avoid
Fluconazole	Avoid	Precaution	Avoid	Avoid
Rifampin	Avoid	Avoid	Avoid	Safe
NSAID/ ASA	Caution	Caution	Caution	Caution
Clopidogrel – antiplatelets	Caution	Caution	Caution	Caution
Diltiazem	Unknown	Caution	Caution	Unknown
Verapamil	Avoid	Caution	Caution	Avoid
Heparin/ ticagrelor	Avoid	Avoid	Avoid	Avoid

Mookadam M, et al. Novel anticoagulants in atrial fibrillation: a primer for the primary physician J Am Board Fam Med 2015; 28(4): 510-22.

Key counselling points

- Important counselling points to be covered:
  1. Indications and how the DOAC works and duration of treatment

  2. Importance of compliance i.e. taking regularly
     - Short half lives and short duration of action
     - Do not omit doses
     - No regular blood tests
     - Importance of with or without food

  3. Side effects and when to seek medical attention
     - Increased risk of bleeding
     - Pain, swelling or discomfort, unusual headaches, dizziness
     - Unusual bruising, nose bleeds, bleeding gums or cuts that take a long time to stop
     - Cut occurs, shaving or cooking – firm pressure should be applied to the site for at least 5 minutes
     - Seek medical attention if
       - injury yourself or hit your head
       - Unable to stop the bleeding
       - Cough up or vomit blood

Key counselling points

4. Inform healthcare professionals or pharmacist before taking any other medications
   - Carry your relevant DOAC alert card with you at ALL times

5. Inform healthcare professionals before any surgical or invasive procedure
   - Includes hospital or dental admissions

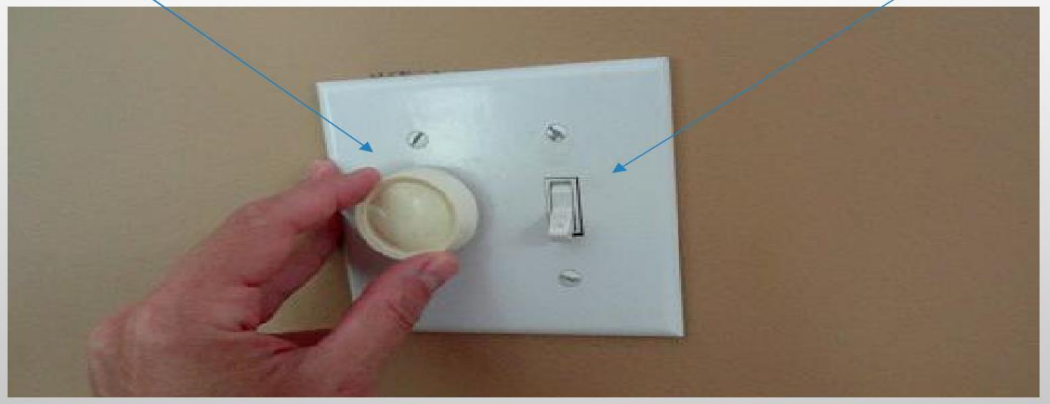
Each brand includes its own alert card
Within HEY we use a trust approved DOAC alert card for all brands
Branded cards and booklets are available in different languages

On discharge patient should receive:
- DOAC booklet and alert card
- DOAC from either a pharmacist, pharmacy technician or nursing staff
- IDL should state serum creatinine and creatinine clearance

IMPACT OF A MISSED DOSE

WARFARIN

NOAC



Missed Doses – critical medication

- DOACs have shorter half lives (<24 hours) than warfarin (~37 hours) and therefore missed doses put patients at risk due to **insufficient anticoagulation**

- For ONCE daily DOACs (i.e rivaroxaban and edoxaban) doses need to be within 12 hours of scheduled time; if any later than this omit the forgotten dose and continue with next dose at scheduled time

- For TWICE daily DOACs (i.e. apixaban and dabigatran) doses need to be within 6 hours of scheduled time; if any later than this omit the forgotten dose and continue with next dose at scheduled time

- Important to counsel patients on this; aided by info in their patient support booklet

Additional information

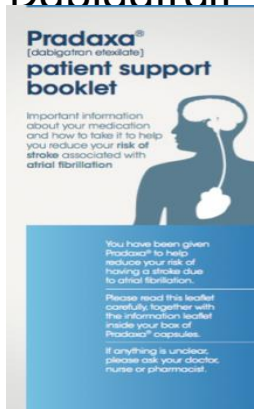
	Apixaban	Rivaroxaban	Dabigatran	Edoxaban
+/- Food	Take with water With or without food	With food	With water Preferably with food	With or without food
Compliance Aid	Yes	Yes	No	Yes
Crushable?	Yes	Yes	No – Swallow whole	Yes

- Remember to counsel patients to always inform other healthcare professionals you are taking blood thinning medication i.e. you dentist

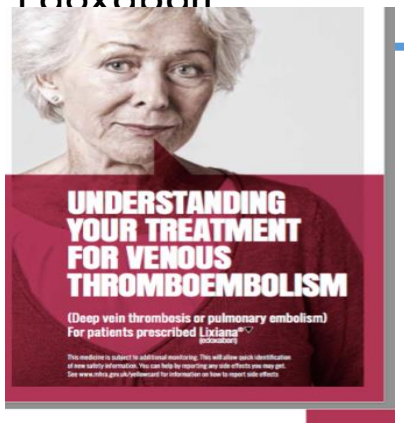
Patient Information Booklets

AF

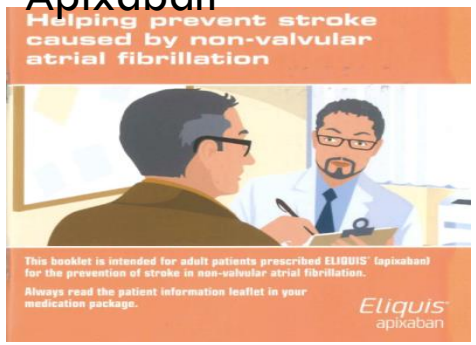
Dabigatran



Edoxaban



Apixaban

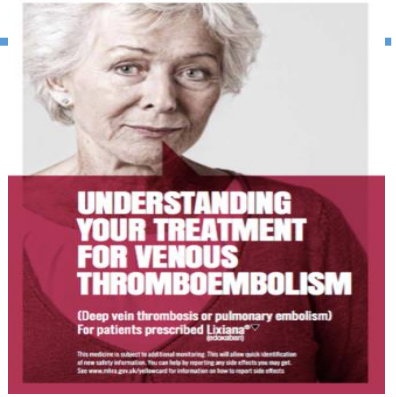


Rivaroxaban

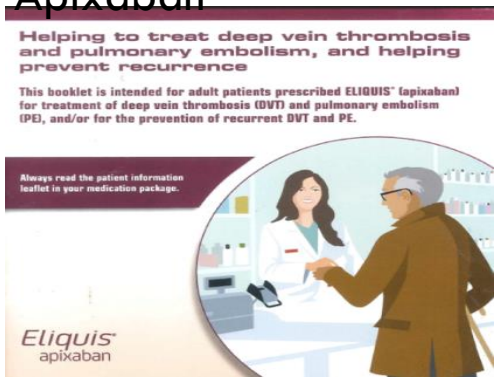
- **Different for each indication!**
  Be careful as look similar
- English stocked in pharmacy and on wards
- Available to download in different languages from manufacturers websites!
- Good aid when counselling patients

DVT/PE

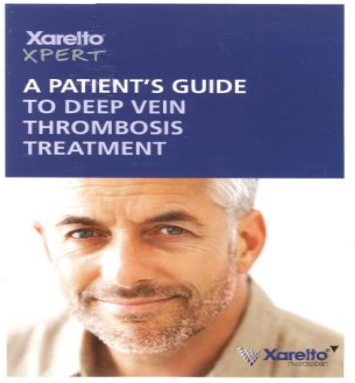
Edoxaban



Apixaban



Rivaroxaban



ONLY AF INFO BOOKLET AVAILABLE FOR DABIGATRAN?

Community Pharmacy Humber

YORKSHIRE & HUMBER ACADEMIC HEALTH SCIENCE NETWORK

NHS Hull University Teaching Hospitals NHS Trust

Questions

Next Steps

- Identifying champions
- Analyse data
- Survey of CPH
- Academic study
- Case studies
- Region-wide TCAM steering group

Reflections

How can you (as an individual, team, organisation) help to ensure that Refer to Pharmacy is successful in Hull and Humber?