ISRCTN17094460 https://doi.org/10.1186/ISRCTN17094460

What is the impact of a new service designed to improve communication about medicines between the hospital and the community when patients are discharged?

Submission date
20/10/2020

Recruitment status
No longer recruiting

Registration date
30/11/2020

Overall study status
Completed

Last Edited
22/03/2024

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aim:
This project is an evaluation of a new service that was introduced in NHS hospitals and surrounding GP surgeries and pharmacies in England in February 2019. The name of the service is electronic Transfers of Care Around Medicines (TCAM). The service consists of using an electronic system called PharmOutcomes™, which sends a notification to the community pharmacy after the patient leaves the hospital. The service will affect medication use after patients leave the hospital, by reducing medication discrepancies (medication mismatching) in medication prescribing and dispensing between secondary and primary care, as both community pharmacy and the GP are quickly made aware of all details regarding patients' medication that the hospital wants them to have after they are sent home.

Our study aims to find out whether the TCAM service achieved its aims by studying its impact on medication safety.

Who can participate?
Clinical pharmacists working in general practices in the study Clinical Commission Group region will collect data to find out if the TCAM service improves safety. Clinical pharmacists employed and work at NHS acute hospital in England will collect electronic data which tells us how the TCAM service is used.

What does the study involve?
Our research seeks to understand how the TCAM service is used through the PharmOutcomes™ system in community pharmacy (service ‘Activity’ study) and also the impact of the use of the TCAM service on medication ‘safety’ on reducing medication mismatches, time to medication checking and patient harm following hospital discharge to primary care.
For the 'activity' study, we are going to look at how often the referral service is used, and what additional services patients who are the subject of a referral receive from their community pharmacy. For the 'safety' study, we are going to find out if the service reduces the number of

medication mismatches patients had between the list of medications prescribed by their GP and what the hospital had listed in their discharge letter. Also, we are going to see if the service will affect how frequently harm that the patient may experience due to their medicines occurs. The data will be collected by looking at GP computer system records for things that happened in the past, both before and after the service was implemented.

What are the possible benefits and risks of participating?
None

Where is the study run from?
1. The University of Manchester
2. Collaborating sites: Salford Royal NHS Foundation Trust (UK) and General Practices within Salford Clinical Commission Group.

When is the study starting and how long is it expected to run for?
February 2020 to December 2020

Who is funding the study?
1. University of Manchester (UK)
2. This project is part of a PhD programme being funded by Kuwait Civil Service Commission

Who is the main contact?
1. Dr Richard Keers, Richard.keers@manchester.ac.uk
2. Dr Douglas Steinke, douglas.steinke@manchester.ac.uk
3. Fatema Alqenae, fatemaalqenae@hotmail.com

Contact information

Type(s)
Scientific

Contact name
Miss Fatema Alqenae

ORCID ID
https://orcid.org/0000-0001-9714-0007

Contact details
Office 1.132, Stopford Building
School of Health Sciences, Faculty of Biology Medicine and Health
University of Manchester
Oxford Road
Manchester
United Kingdom
M13 9PT
+44 (0)161 306 0620
fatemaalqenae@hotmail.com

Type(s)
Scientific

Contact name
Dr Richard Keers

ORCID ID
https://orcid.org/0000-0001-7854-8154

Contact details
School of Health Sciences, Faculty of Biology Medicine and Health
Stopford Building
University of Manchester
Manchester
United Kingdom
M13 9PT
+44 (0)161 275 2414
Richard.keers@manchester.ac.uk

Type(s)
Scientific

Contact name
Dr Douglas Steinke

ORCID ID
https://orcid.org/0000-0001-8917-2674

Contact details
School of Health Sciences, Faculty of Biology Medicine and Health
Stopford Building
University of Manchester
Manchester
United Kingdom
M13 9PT
+44 (0)161 275 2324
douglas.steinke@manchester.ac.uk

Additional identifiers

Integrated Research Application System (IRAS)
262688

Study information

Scientific Title
Evaluation of medication discrepancies and adverse drug events following the transition from secondary to primary care before and after implementation of transfers of care around medicines service in NHS acute hospital and clinical commissioning group in England

Study objectives
This research evaluates the newly implemented electronic Transfer of Care Around Medicines (TCAM) service to pharmacy in an NHS acute hospital and surrounding Clinical Commissioning

Group (CCG) in England. We aim to understand the extent of service utilisation 'activity' as well as the ‘safety impact’ of the use of the TCAM service to send discharge letters from hospital to community pharmacy on reducing medication discrepancies, time to medication reconciliation and adverse drug events following transition of care from secondary to primary care.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Approved 24/10/2019, Heath Research Authority (HRA) (Skipton House, 80 London Road, London, SE1 6LH, UK; +44 (0)20 7972 2545; hra.approval@nhs.net), ref: none provided
2. The project was exempt from the University Research Ethics Committee (UREC) approval (University Research Ethics Committee 3, Research Governance, Ethics and Integrity 2nd Floor, Christie Building, The University of Manchester, Oxford Road, Manchester, M13 9PL, UK; +44 (0) 161 275 2206; research.ethics@manchester.ac.uk), ref: [2019-7048-10983]

Primary study design
Other

Study design
Uncontrolled retrospective before and after study

Study type(s)
Other

Health condition(s) or problem(s) studied
Any medical condition

Interventions
This project is an evaluation of a newly implemented service that was introduced in NHS acute hospital and surrounding Clinical Commissioning Group (CCG) in England in February 2019. The name of the service is Transfers of Care Around Medicines (TCAM). The new service consists of using an electronic system called PharmOutcomes™. The service is designed to improve communication, reduce medicines waste, reduce medication discrepancies, and improve monitoring and reporting of adverse drug reactions. The service is initially focused on patients with new or existing monitored dosage system (MDS) (also known as blister packs).

The PharmOutcomes™ system was used by hospital pharmacists in the acute trust to send discharge notification to a patients’ named community pharmacy when the patient leaves the hospital. This study evaluates the TCAM service, by studying utilization of the service through electronic referral ‘activity’, and by studying the impact of the TCAM on ‘safety’, specifically the rate and nature of medication discrepancies, and drug related harm post hospital discharge.

Data collection to evaluate how the TCAM service is used through the PharmOutcomes™ system in community pharmacy (service ‘Activity’ study) will be via looking at how often the referral service is used, and what additional services patients who are the subject of a referral receive from their community pharmacy. This data will be extracted by one pharmacist in the hospital and sent securely to the research team for analysis.

For the 'safety' study, we are going to find out if the service reduces the number of medication discrepancies and adverse drug events patients had, before and after the service was

Implemented. The data will be collected retrospectively by clinical pharmacists at general practices. This will be followed by an expert panel meeting to assess the severity and causality of adverse drug events identified.

Intervention Type
Other

Primary outcome(s)
Measured before and after the introduction of the TCAM intervention:
1. Prevalence of medication discrepancies, and adverse drug events using data gathered pseudonymously from primary care electronic health records by general practice clinical pharmacists
2. Class of medications involved, patient gender and age group involved associated with medication discrepancies measured using data from health records
3. Presence, preventability (ADEs) and potential/actual severity of identified medication discrepancies and adverse drug events using review by an expert panel
4. Factors associated with increased risk of medication discrepancies and adverse drug events measured using data from health records:
4.1. Patient factors: patients age, gender, hospital discharge diagnosis
4.2. Medication factors: medication group, medicine dose, and medicine formulation
4.3. Service factors: time to complete medication reconciliation
5. Time to identification of discrepancies using medication reconciliation (or equivalent) entry data gathered pseudonymously from electronic health records by general practice clinical pharmacists
6. Number of referrals, nature of the referrals and outcome of the referrals (i.e. activity in community pharmacy post-hospital discharge) including accepted, completed and rejected referral rates, and any reasons for rejections by community pharmacy using a mixed-method approach to analyse anonymised patient referral data via PharmOutcomes™

Key secondary outcome(s)
There are no secondary outcome measures

Completion date
30/12/2020

Eligibility

Key inclusion criteria
The study did not involve recruiting participants, the inclusion criteria for is for eligible patient records for retrospective screening by general practice pharmacists.
'Safety' impact study data:
1. Age of 18 years or above
2. Discharged from in-patient hospital stay at NHS acute hospital in England
3. Staying at least 24 hours in hospital
4. Patients are prescribed at least 1 regular medication
5. Patients must be registered to one of the 20 named general practices involved in the project, located within the study Clinical Commissioning Group
6. Patient discharged on new or recurrent Monitored Dosage System (MDS) during a predefined 6-month period before and after the TCAM service went live

TCAM service utilisation ‘Activity’ data:
7. All patient discharged and referred via the TCAM service from March 2019 - February 2020

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Sex
All

Total final enrolment
594

Key exclusion criteria
The study did not involve recruiting participants, the exclusion criteria are for patient records for retrospective screening stage by general practice-based pharmacists.
1. Patients discharged from an inpatient hospital stay from a hospital other than the proposed hospital
2. Patient stays less than 24 hours in NHS acute hospital in England
3. Discharged with no MDS
4. Patients who had a planned hospital admission including, e.g. dialysis, day-case surgery, chemotherapy or transfusion-related: as they are a specific group of patients which limits the generalisability of the data
5. Patients without a mediation reconciliation or equivalent data in the general practice computer system, to extract data from

Date of first enrolment
01/02/2020

Date of final enrolment
30/12/2020

Locations

Countries of recruitment
United Kingdom

England

Study participating centre

University of Manchester
Oxford Road
Manchester
United Kingdom
M13 9PT

Sponsor information

Organisation
University of Manchester

ROR
https://ror.org/027m9bs27

Funder(s)

Funder type
University/education

Funder Name
University of Manchester

Alternative Name(s)
University of Manchester in United Kingdom, University of Manchester UK, The University of Manchester, UoM

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Funder Name
This project is part of a PhD programme being funded by Kuwait Civil Service Commission

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are not expected to be made available due to lack of ethical approval.

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		11/10/2023	22/03/2024	Yes	No