The Regulation and Quality Improvement Authority

GAIN
GUIDELINES AND AUDIT IMPLEMENTATION NETWORK

Regional Audit of Medicines Reconciliation on the Immediate Discharge Document

April 2017

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Assurance, Challenge and Improvement in Health and Social Care

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Executive Summary

The transfer of information regarding medicines from Secondary to Primary Care is sub-optimal with significant problems concerning correspondence about medications noted by a number of studies particularly at the time of hospital discharge.

Recent work in 2016 undertaken by NHS England Specialist Pharmacy Service (SPS)[9] included conclusions that communication around medication changes when patients transfer between settings still requires significant improvement and that collaboration between the relevant stakeholders is needed to review local hospital discharge templates.

The aim of this audit was to evaluate the current processes in place for accurate medicines reconciliation on the Immediate Discharge Document (IDD) issued by Health and Social Care (HSC) Trusts in Northern Ireland.

Data was collected by 256 final year medical students in 75 General practices throughout Northern Ireland as part of the pre-Foundation Queen's University Belfast Assistantship week in general practice during April & May 2016. A total of 1240 IDDs were audited from all five of the Northern Ireland HSC Trusts.

The audit's key findings are that receipt of IDDs by Primary Care is often delayed, information relating to new, changed and stopped medicines falls well below optimum standards and documentation about anticoagulation is poor.

The areas for immediate attention include the time between discharge and receipt of the IDD by the General Practitioner (GP), the noting and rationale for medicines that are started, changed or stopped, an improvement of detail around allergy status and adherence to best practice in respect of the high risk area of anticoagulation.

This is the first time a regional audit of IDDs has been conducted at scale across Northern Ireland. The results show that there is room for significant improvement across all of the criteria audited.

Key findings

No.	Standard	% Compliance
1	**Receipt of IDD by GP**	
1a.	IDD should be received by GP within 24 hrs of discharge	23.1
1b.	IDD should be received by GP no later than three days after discharge	47.6
2	**Documentation of Allergy Status**	
2a.	All patients must have allergy status documented on the IDD	84.2
2b.	Where an allergy is recorded the sensitising agent should be noted	80.6
2c.	Where an allergy is recorded the nature of the reaction should be noted	19.0
3	**Medicines Reconciliation**	
	Where a change in a medication has occurred (new, changed or stopped) this should be noted on the IDD:	
a.	• New medicines	69.3
b.	• Changed medicines	72.1
c.	• Stopped medicines	74.5
	Where a change in a medication has occurred the rationale for the change should be noted:	
d.	• New medicines	34.5
e.	• Changed medicines	36.2
f.	• Stopped medicines	55.2
4	**Communication re. Anticoagulation**	
	Where an anticoagulant has been prescribed the following should be noted :	
a.	• Reason for anticoagulation	61.3
b.	• Duration of anticoagulation	53.8
c.	• Counselling on anticoagulation	22.6
d.	• Standardised template used for communication (all anticoagulants)	28.4
	- warfarin	58.9
	- enoxaparin	19.0

NB: This audit's steering committee recognise that 100% of immediate discharge document (IDD) should contain accurate and complete information regarding a patient's medicines. However, in this audit a realistic and achievable target of 90% has been set for the quality

Recommendations

On consideration of the findings of this regional audit on IDDs the following recommendations are made:

1. A regional quality improvement project involving representatives from all Trusts and Primary Care should be established aimed at improving the quality and safety of IDDs.

2. An agreed template for the IDD should be developed in conjunction with Primary Care and adopted by all HSC Trusts. This should include mandatory fields to ensure that all quality indicators are completed appropriately.

3. Initiatives aimed at timeliness of delivery of the IDD should be implemented across all Trusts. Where possible the IDD should be generated and delivered electronically.

4. A regional anticoagulation template within the IDD should be developed as a means to communicate all necessary information on all anticoagulants (including warfarin, direct oral anticoagulants (DOACs) and injectable anticoagulants).

5. Development of a standardised process for local escalation of queries related to the IDD should be pursued.

6. A multidisciplinary educational programme at both undergraduate and postgraduate level should be developed to support best practice and ensure medicines reconciliation is undertaken at all transitions of care.

7. A three yearly full re-audit with an annual interim audit as a learning exercise for medical students in the pre-Foundation Assistantship should be completed.

Audit report

Background

Discharge from hospital and the transfer of patient care across the Secondary/Primary Care interface represents a risk-laden process. There is a large body of evidence that suggests that the transfer of information regarding medicines from Secondary to Primary Care is far from optimal.[1-3] It is essential that accurate and detailed information is transferred in a timely manner to avoid patient harm. A report for the General Medical Council[4] in 2012 investigated the prevalence of prescribing errors in general practice and highlighted the risks at the Secondary/Primary Care interface, with significant problems concerning correspondence about medications noted particularly at the time of hospital discharge.

The discharge letter, also referred to as the immediate discharge document (IDD), is the main method by which Primary Care is informed of new diagnoses, changes in medication and the need for on-going follow-up in the community following a hospital admission. In Northern Ireland the Guideline and Audit Implementation Network (GAIN) published guidelines[5] in 2011 setting out the appropriate content of the IDD. GAIN highlighted that the IDD should include *'a comprehensive and reconciled list'* of the patient's medication at the time of discharge, with any changes highlighted and the rationale for such changes explained.

In its 2012-2015 review programme the Regulation and Quality Improvement Authority (RQIA) assessed the use of the GAIN guideline within the discharge process[6] and concluded the situation regarding IDDs was improving, but highlighted that junior doctor induction should be more robust, and that structured prescribing and medicines management training should be provided. Foundation doctors play a significant role in the preparation and completion of IDDs.

A small-scale local audit undertaken in 2014 by one Health and Social Care (HSC) Trust[7] in association with a small number of final year students participating in the pilot GP Assistantship Programme at Queens University Belfast (QUB), established that current discharge processes with respect to medicines reconciliation continued to be sub-optimal. This reflected the findings of a study by Hammad et al[8] which reported that 48.9% of discharge summaries complied with standards set by the National Prescribing Council (NPC) on the reporting of medication therapy changes (medicines initiated, discontinued or dose changed with a corresponding reason).

More recently in 2016, a collaborative audit[9] across England concluded that when patients transfer between settings, communication about medication changes requires significant improvement and collaboration between the relevant stakeholders is needed to review local hospital discharge templates.

In Northern Ireland each HSC Trust has sourced its own individual method to produce discharge documentation that complies with GAIN guidance. Both the Northern Ireland Medicines Optimisation Framework[10] and NICE Guideline NG5[11] recommend consistent delivery of medicines reconciliation across the NHS, with robust and transparent processes in place to share complete and accurate information about a patient's medicines between care providers.

It is anticipated that results from this audit will provide a quantitative measurement of standards of current practices with respect to the quality and safety of discharge information provided regarding patient's medicines to Primary Care. It should highlight areas of focus for providers of education and training both at undergraduate and postgraduate levels. It may also serve as a useful tool with which to measure the benefits of any future quality improvement initiatives in this area.

Aim

To audit the accuracy of medicines reconciliation on the IDD issued by HSC Trusts in Northern Ireland.

Objectives

- To determine the extent to which IDDs meet medication standards set out in the 2011 GAIN document 'Guidelines on Regional Immediate Discharge Documentation for Patients Being Discharged from Secondary into Primary Care[5].

- To identify areas for improvement in the current discharge process using IDDs.

- To provide an opportunity for final year medical students on a GP Assistantship Programme to focus on and learn about best practice in respect of IDD preparation.

Standards were derived from:

- Guidelines on Regional Immediate Discharge Documentation for Patients Being Discharged from Secondary into Primary Care.[5]

- Northern Ireland Medicines Optimisation Quality Framework. Department of Health Social Services and Public Safety March 2016.[10]

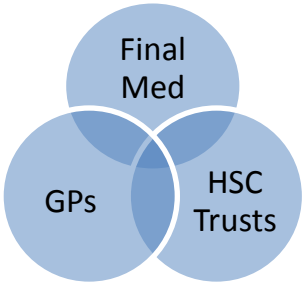
- Actions that can make anticoagulant therapy safer: Alert and other information.[12]

Audit Methodology

A Collaborative Approach

Preparation for the discharge of patients from hospital is a complex task involving the collaborative efforts of doctors, nurses, pharmacists and others. It is the Foundation Doctors (F1s) who are currently most involved in the preparation of IDDs. GPs rely on timely and accurate IDDs to ensure safe on-going care. The audit thus sought to directly involve key stakeholders:

1. Final Year Medical Students (Final Med) in the final preparation to become F1s.
2. Health and Social Care (HSC) Trusts
3. General Practitioners (GPs)



1. Final year medical students

Student 'assistantships' were introduced in the 2009 revision of Tomorrow's Doctors[13] in order to improve the 'preparedness' of medical undergraduates for their role as junior (foundation programme) doctors. From 2012 to 2015 a pilot programme was developed for students to spend one week of the Assistantship on the 'other' side of the Secondary/Primary Care interface to develop a better understanding of their role in the safety and experience of the patient journey as they leave hospital. In 2015-16 the QUB Assistantship week in general practice was extended to all students. The opportunity to participate in an audit where the quality of IDDs would be critically examined by the individual students was thought to be educational and instructive. This enabled students to understand how their role as future authors of IDDs can impact on patient safety.

2. Health and Social Care Trusts – Generation of the IDD

In 2014 RQIA[6] highlighted that audits by HSC Trusts examining the quality of their IDDs were largely lacking, and also recommended that a more robust junior doctor induction process was required in relation to the preparation of IDDs. Efforts within HSC Trusts have continued to focus on improving the quality of medicines reconciliation at both admission and discharge. The introduction of the Electronic Care Record (ECR) with the ability to access lists of medicines issued by the patient's GP has been a major factor in improving standards.

3. General Practice – Receipt of the IDD and continuation of care

Essential information about a patient's stay in hospital allows the GP to continue the patient's care and management following discharge. A survey of GPs by RQIA[6] highlighted the most common problems with the content of IDDs related to medication. More specifically, changes in medication are often not accurately reflected in the IDD. This audit presented the opportunity for Primary Care to engage and collaborate with colleagues in other settings with the aim of improving the quality of information transferred across interfaces of care.

Support for the Audit

Before embarking upon the audit, the audit team felt that it was essential that support should be sought from key stakeholders:

- verbal support was received from the School of Medicine at Queen's University Belfast.
- written support was received from the Chief Executives of the five Health and Social Care Trusts (Appendix 1) and the Chief Medical Officer Group (Appendix 2).

Training and recruitment of the medical students and GP Tutors

QUB final year students attended a 'Preparation for Practice' orientation week (7-11th March 2016) in advance of the nine week Assistantship. This included sessions covering the writing of IDDs and training for the IDD Audit**.** Documentation provided included:

- GAIN Guidelines on Regional IDD[6]
- An audit briefing document and audit proforma (Appendices 3 & 4).

GP tutors attended a training session for their role as a tutor at which they were informed of the audit and their role within the audit. The same information provided to the students (above) was provided for tutors.

Allocation of Students

Students were allocated to attachments in each of the five trusts and were placed, as far as possible, with GPs who were within the Trust area that they were completing their Assistantship. This was mostly one student to one GP with a small number of GP Tutors taking two students. Weeks 1 & 2 of the Assistantship were spent in the hospital setting for all students. During weeks 3 – 7 a cohort was allocated to spend a week in the GP setting.

Audit sample

- Five IDDs were audited by each Final Year Medical Student during their week-long assistantship placement in General Practice during April and May 2016 (prospective audit).

Exclusions

- Outpatients' letters and communication regarding Emergency Department attendances not resulting in admission to hospital were excluded.

Data Collection Method

- IDDs were identified by the GP Tutor for patients recently discharged from hospital (preferably within the week the student was on the GP attachment).

- A list of pre-admission medication was accessed from practice records and printed out.

- Medication records before admission and after discharge were compared.

- The students followed the audit briefing guide (Appendix 3) and recorded the findings on the audit proforma provided (Appendix 4).

- Audit data was transcribed to an electronic survey the link for which had been sent at the start of the GP Assistantship week. Students who had not completed the audit by the end of the week were sent a gentle email reminder. (Appendix 5)

Data analysis

On completion of the audit the data was downloaded from SurveyMonkey[15] into Excel files and presented to the medical statistician for data cleansing and preparation for analysis. A single Excel sheet was imported to Statistical package Social Science (SPSS)[16] version 22 for further recoding and analysis. Fields identified as text were changed to numeric codes and labels added.

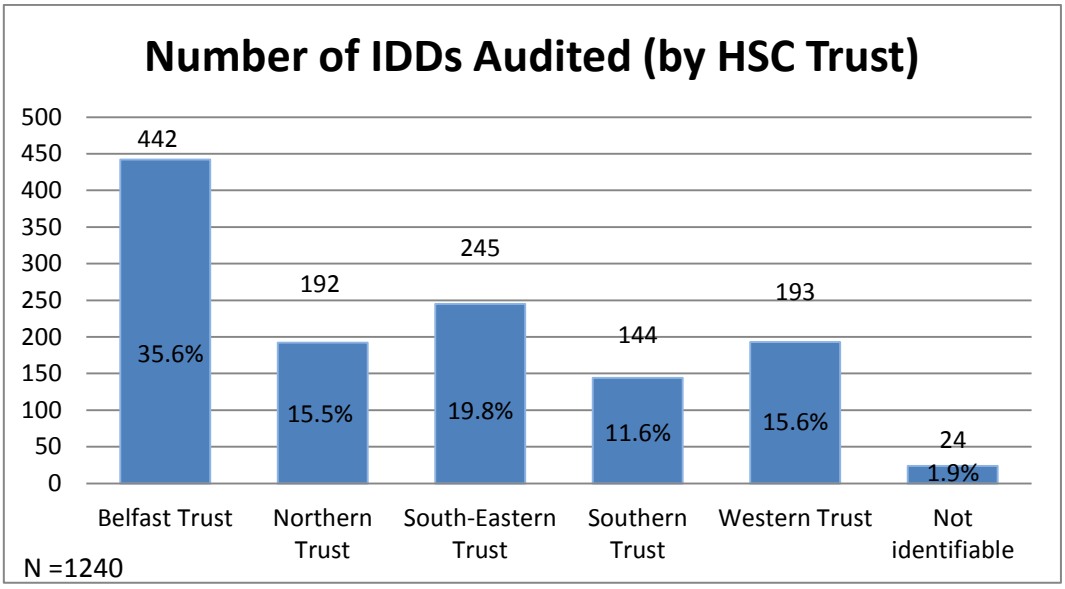
As far as was possible inconsistencies in the data were corrected. Statistical analysis involved descriptive statistics and cross-tabulations of data with calculation of appropriate and meaningful percentage figures. Descriptive statistics were based generally on medians and inter-quartile ranges rather than means and standard deviations. To add clarity to these summary statistics interpolated medians (in SPSS this is provided as medians for grouped data) were used. A number of other variables were created as required. Where no anticoagulant was identified in the audit, completion of information about anticoagulation was assumed to be void.

Audit Findings

Total number of IDDs audited	1240
Number of Final Year Medical Students involved in data collection	256
Average number of IDDs per student	4.8
Total of number GP Practices participating in the audit	75

Information about the GP Practices and auditors participating in the audit are listed in Appendices 6 & 7.

Figure 1: Number of IDDs Audited by HSC Trust

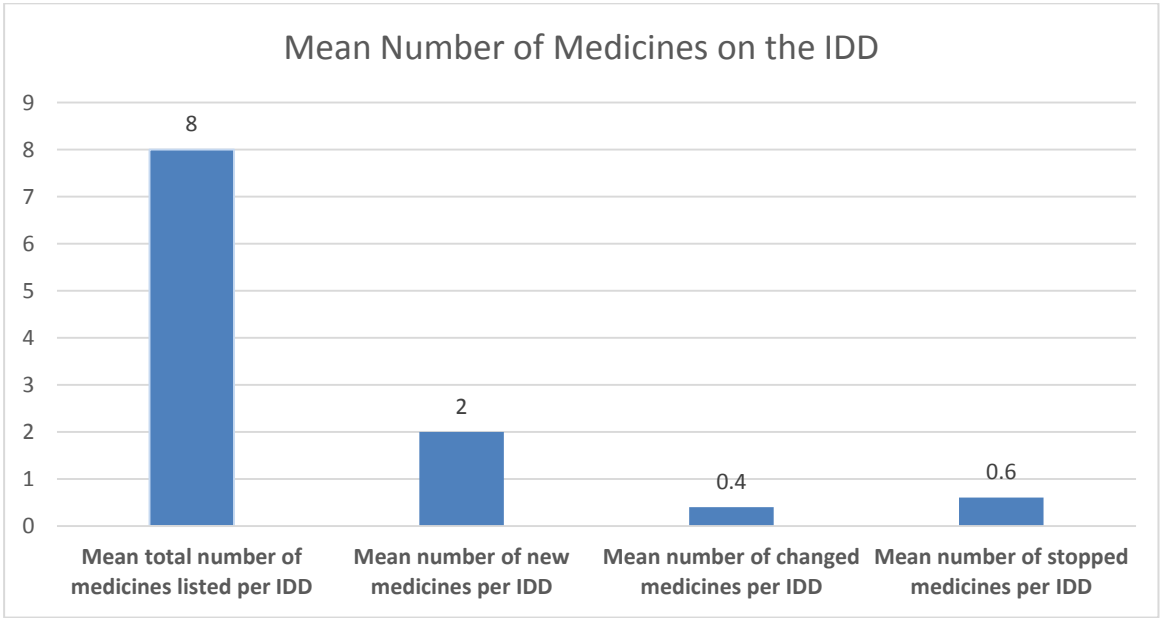


IDDs audited by hospital and speciality are listed in Appendices 8 & 9. Results by HSC Trust are listed in Appendix 10**.**

Medicines Data

A total of 9892 medicines were audited.

Figure 2: Mean number of medicines on the IDD



Quality Standards

1. Length of time between discharge and receipt of IDD by GP

Standard 1: Target 90%
IDD should be received by GP within 24 hours of discharge

Exceptions
None

Criteria		Percentage	Trust range (%)
Percentage of all letters audited that were received within one day of discharge	284/1228	23.1%	16.2 – 30.2
Percentage of all letters audited that were received within three days of discharge by GP	584/1228	47.6%	44.9 – 51.0
Percentage of all letters audited that took longer than seven days from discharge to reach the GP	260/1228	21.2%	14.7 – 36.0

Criteria	No. of Days (all Trusts)	Trust range (Days)
Median length of time (days) for IDD to be received by GP post discharge	3.75	3.51 – 4.11

2. Documentation of Allergy Status on the IDD
Standard 2a – 2c: Target 90%

2a: All patients must have allergy status documented on the IDD.
2b: Where an allergy is recorded the sensitising agent should be noted.
2c: Where an allergy is recorded the nature of the reaction should be noted.

Exceptions
None

Criteria		Compliance	Trust Range (%)
a. Allergy status documented on IDD	1044/1240	84.2%	72.9 – 94.4
b. Sensitising agent noted	379/470*	80.6%	64.8 – 92.8
c. Nature of reaction noted	89/470*	18.9%	8.8 – 37.3

* IDDs with at least one allergy documented = 470

2. Medicines Reconciliation

Standard 3a – 3c: Target 90%
Where a change in a medication has occurred (new, changed or stopped) this should be noted on the IDD

Exceptions
None

Medicine Status		Medicines with correct status documented	Trust Range (%)
a. New	1703/2456	69.3%	59.0 – 85.5
b. Changed	315/437	72.1%	57.5 – 85.7
c. Stopped	548/736	74.5%	60.6 – 91.2

Standard 3d – 3f: Target 90%
Where a change in a medication has occurred (new, changed or stopped) the rationale for the change should be noted

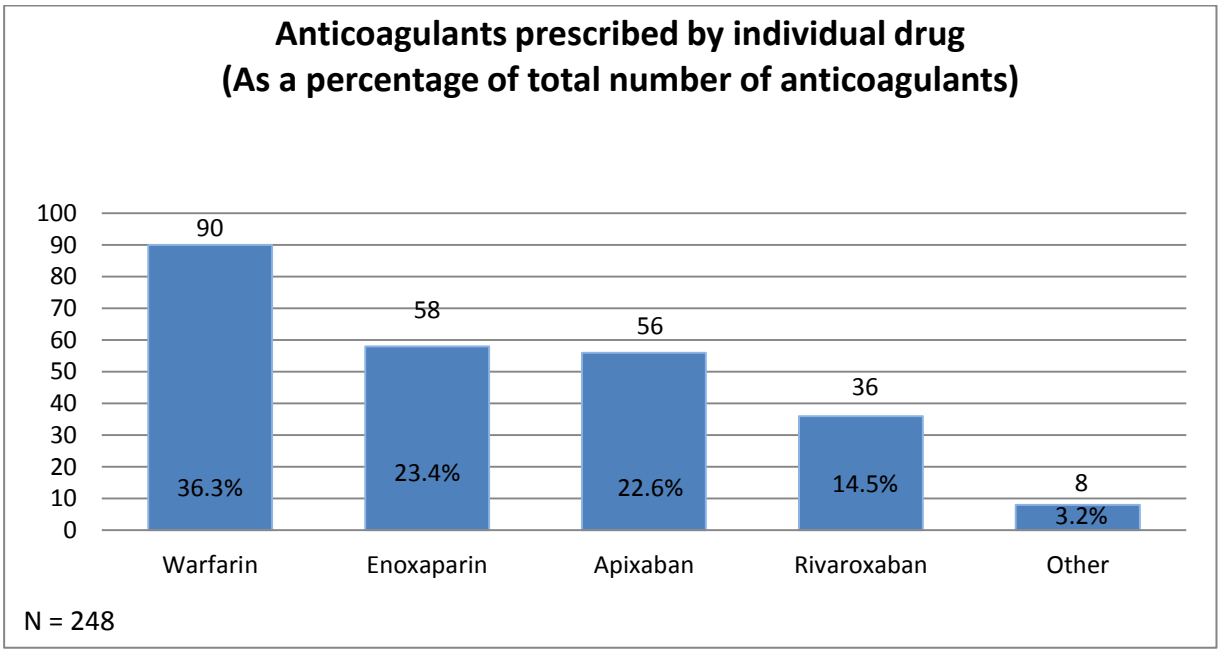
Exceptions
None

Medicine Status		Medicines with rationale for change noted	Trust Range (%)
d. New	848/2456	34.5%	30.6 – 41.5
e. Changed	158/437	36.2%	31.5 – 44.3
f. Stopped	406/736	55.2%	36.4 – 78.4

3. **Communication re. Anticoagulation**

Number of patients		Percentage of patients prescribed an anticoagulant	Trust range (%)
Number of patients noted to be prescribed an anticoagulant	248/1240	20.0%	17.1 – 25.0

Prescription of Anticoagulants by Individual Drug



Standard 4a – 4d:

Where an anticoagulant has been prescribed the following should be noted on the IDD: (Target 90%)

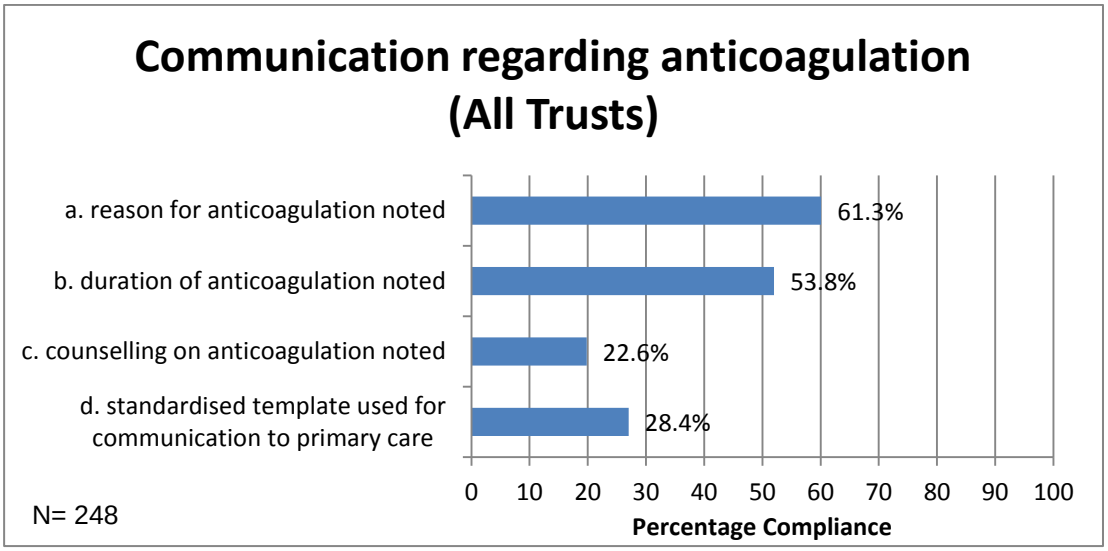
4a - Reason for anticoagulation
4b - Duration of anticoagulation
4c - Counselling on anticoagulation
4d - Standardised template used for communication

Exceptions

None

Compliance: (all anticoagulants)

Anticoagulant Criteria		Compliance	Trust Range (%)
a. Reason for anticoagulation noted	149/243	61.3%	46.0 – 75.6
b. Duration of anticoagulation noted	129/240	53.8%	45.5 – 61.1
c. Counselling on anticoagulation noted	49/217	22.6%	11.1 – 35.6
d. Standardised template used for communication to Primary Care (all anticoagulants)	67/236	28.4%	18.4 – 35.6
- Standardised template used for warfarin	53/90	58.9%	37.5 – 100.0
- Standardised template used for enoxaparin	11/58	19.0%	0.0 – 41.7



Compliance: (by individual anticoagulant)

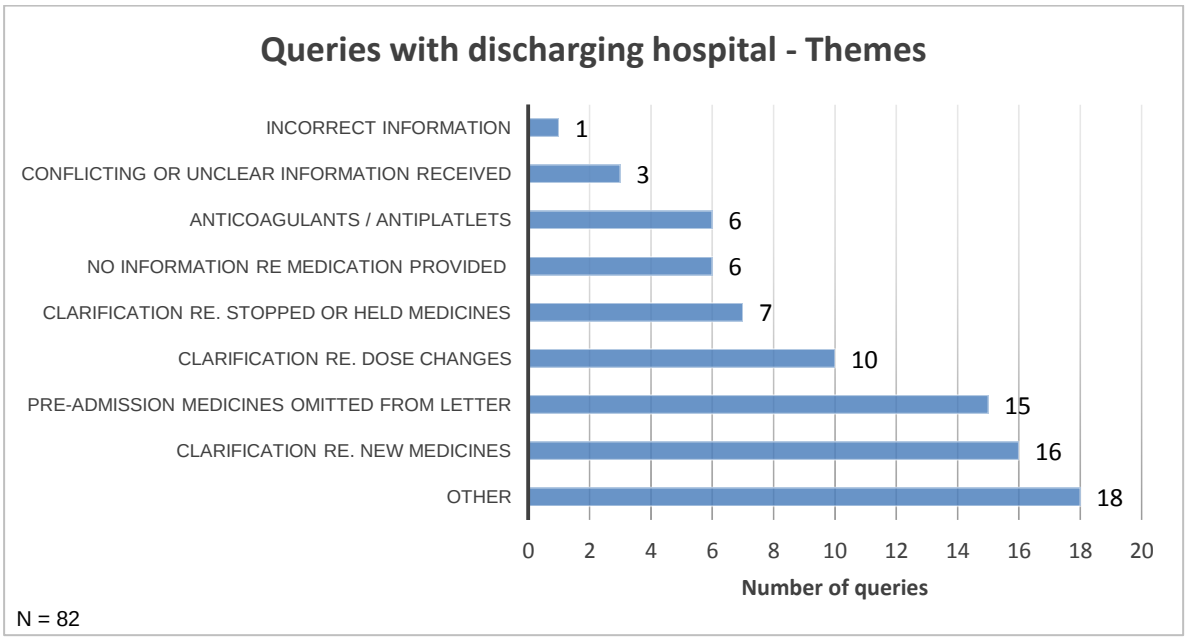
Anticoagulant Criteria	Compliance By Drug				
	Warfarin	Apixaban	Rivaroxaban	Enoxaparin	Other
a. Reason for anticoagulation noted	67.8%	57.1%	52.8%	58.6%	37.5%
b. Duration of anticoagulation noted	58.9%	26.8%	38.9%	86.2%	37.5%
c. Counselling on anticoagulation noted	28.9%	12.5%	13.9%	19.0%	0.0%
d. Standardised template used for communication to Primary Care	58.9%	3.6%	2.8%	19.0%	0.0%

(N = 248)

Clarification of queries with discharging hospital:

		Percentage of total number of IDDs	Trust range (%)
Percentage of IDDs audited which prompted the need to clarify a query with the discharging hospital	82	6.6%	3.5 - 10.4

The queries on IDD can be summarised into nine broad themes:



The full list of queries recorded in the audit is found in Appendix 11.

A selected example for each of the themes is given below.

Query Theme	Example (direct quotes from auditors)
Incorrect information	Dose of one medication on discharge letter incorrect
Conflicting or unclear information received	Two discharge letters sent, dated on the same day. Had to contact hospital to clarify the correct dose of calcitriol as one letter stated 250 nanograms and the other stated 500 nanograms. Issue was resolved.
Anticoagulants/ antiplatelets	Warfarin: unclear whether stopped or not in hospital and "INR ASAP" request not forwarded by patient or hospital doctors.
No information re. medication provided	First discharge letter had no medications attached at all had to ring ward and ask for them to send a second discharge summary
Clarification re. stopped or held medicines	Had to ring ward pharmacist in Hospital to see if Furosemide 40mg OD and Metformin 500mg BD could be restarted as it has been previously stopped on admission two weeks prior and was stated these medications were to be held due to AKI, however since they had been restarted there was no mention of recent kidney function and no further follow up from GP required
Clarification re. dose changes	Increased dose of bisoprolol. Needed to enquire as to whether this was changed intentionally
Pre-admission medicines omitted from letter	There were two medications the patient is regularly on that were omitted from the IDD. I had to phone the ward to clarify if these were stopped in hospital or if they were omitted by mistake.
Clarification re. new medicines	Risperidone commenced with no indication, dose adjustment information or GP actions/follow-up notes - I called the secretary of the consultant and clarified these points
Other	As patient was discharged with electrolyte disturbances, does the electrolyte profile need to be repeated when repeating an ECG?

Observations & Discussion

The size and scope of this audit (1240 IDDs & 9892 medicines audited) is similar to the scale of the NHSE SPS audit (1454 IDDs &10038 medicines audited) conducted in January 2016.[9] This allows reasonable comparison of results with resultant benchmarking of practice within Northern Ireland to that in England.

Demographic and Medicines Data

The distribution of IDDs audited by Trust is largely reflective of the percentage of patients admitted to each HSC Trust annually (as per Department of Health figures - available at https://www.health-ni.gov.uk/publications/hospital-statistics-inpatient-and-day-case-activity-statistics-201516).

The audit noted a mean of eight medicines per patient were prescribed across the HSC. This compares to a mean of 6.9 medicines per patient found in the comparative audit[9] across England. This is in keeping with the higher spend per head of population on health in Northern Ireland compared to other regions in the UK (as per HM Treasury's Country and regional analysis in 2016 https://www.gov.uk/government/statistics/country-and-regional-analysis-2016).

The mean number of new (2.0) changed (0.3) and stopped (0.6) medicines per IDD was similar to the NHSE SPS audit[9] results which were new (2.2) changed (0.3) and stopped (0.5).

Pharmacist presence within GP practices

On receipt of the IDD in Primary Care medicines reconciliation should be carried out as soon as possible to ensure all medication changes are updated on the GP prescribing system and any prescriptions are issued as appropriate. The NHSE SPS audit[9] established that 42% of discharge documents were reconciled by the GP within 7 days. Medicines reconciliation in England was undertaken most often by the GP (51% of the time), with a Practice Pharmacist involved in reconciling medicines in 6% of IDDs received.

Within Northern Ireland a five-year initiative was launched in 2015 https://www.health-ni.gov.uk/sites/default/files/publications/health/practice-based-pharmacists.pdf which aims to increase the number of practice based pharmacists working as part of the clinical team in Primary Care. Reviewing medication and reducing errors will be some of the key duties undertaken within these new roles.

This audit aimed to establish the current position with respect to the availability of pharmacists in the practices participating in the audit. It is important to note that as this audit was conducted in 75 out of over 350 general practices in Northern Ireland this may not be a representative figure. Any future re-audits may wish to examine in more detail medicines reconciliation procedures in place within Primary Care and establish which professional groups undertake this activity.

Quality standard 1 – Length of time between discharge & receipt of IDD by GP

The median length of time for receipt by the GP of discharge information was 3.75 days. This reflects reliance on predominantly non-electronic forms of document transfer currently used by HSC Trusts. This is in contrast to NHSE SPS audit[9] which showed that 89% of take home prescriptions were electronically generated and 72% were electronically delivered to Primary Care. This resulted in the vast majority of GPs in England receiving information on the same day of discharge. The form of the IDD (electronic or handwritten) and the method of delivery to general practice (hand delivery, post or electronic transfer) were not recorded in this audit.

Quality Standard 2 – Documentation of Allergy Status on the IDD

Allergy status was documented on 84.2% of IDDs audited. Whilst this compares favourably to the NHSE SPS audit[9] figures in 2016 which noted 75.8% completion of allergy status it is noted that the NHSE SPS figure required all components of allergy documentation to be recorded to show compliance. The nature of the reaction was recorded as 19% and this variable was not reported in the NHS England audit due to difficulties with interpretation of the audit questionnaire.

Quality standard 3 – Medicines Reconciliation

The IDD should include *'a comprehensive and reconciled list'* of the patient's medication at the time of discharge, with any changes highlighted and the rationale for such changes explained. This audit showed that annotation of medication changes on the IDD was, for new (69.3%), changed (72.1%) and stopped (74.5%). Stopped medicines were more likely to be annotated on an IDD compared to new or changed.

The rationale for medication changes should also be noted on the IDD. This audit illustrated that new medicines (34.5%) were annotated less frequently than changed (36.2%) or stopped medicines (55.2%). These results fall below that reported in the NHSE SPS audit[9] which also noted the lack of documentation regarding medication changes and considered this as a cause for significant concern. The comparison of figures in this part of the audit is summarised below.

Percentage of medicine changes for which the rationale for change was noted on the IDD

	NI GAIN audit 2016	NHSE SPS audit[9]
New	34.5	49
Changed	36.2	39
Stopped	55.2	57

Quality Standard 4 – Anticoagulation

Anticoagulants are high risk medicines and one of the classes of medicines most frequently identified as causing preventable harm. The National Patient Safety Agency issued an alert in 2007 entitled 'Actions that make anticoagulant therapy safer'[13] and notably effective communication systems, particularly on discharge from hospital, were highlighted as an action point. At the time the alert was issued, the most common anticoagulant in use was warfarin. Direct oral anticoagulants (DOACs) are becoming increasingly used and safe systems of communication have not been established for this class of anticoagulants.

The quality standards for communication for all anticoagulants found in this audit reflect the lack of development of standardised templates for communication predominantly for DOACs and also enoxaparin. The latter is becoming increasingly used post-discharge for venous thromboembolism prevention and pre- and post-operative anticoagulant bridging.

Anticoagulant therapy is a high risk medicine and when communication is standardised this improves patient safety. Despite the longstanding use of warfarin in particular, it was noted that compliance with the quality standards were below what is expected. For all anticoagulants the reason for anticoagulation (61.3%), duration of anticoagulation (53.8%) and counselling on anticoagulation (22.6%) reflect the suboptimal use of standardised templates on discharge. This was reflected in this audit which showed 27.0% of all patients discharged on an anticoagulant had information about the medicine communicated to their GP on a standardised template.

Clarification of queries

As part of the data collection auditors were asked to identify if there was a need to contact anyone in the discharging hospital to clarify or resolve any queries related to this discharge. Any queries raised during the audit were discussed with the GP tutor before further action was taken. The number of IDDs in this audit requiring clarification was found to be 82 i.e. 6.6% of all IDDs audited.

Auditors were asked to briefly describe the queries and these were reviewed and grouped into themes. On examination, it is evident that the nature of these queries represent potential risks to patient safety. Certain themes emerge and in the vast majority of cases these could be attributed to inadequate medicines reconciliation at discharge. Suboptimal annotation of medication changes i.e. those medicines which were new, changed or stopped whilst in hospital and also lack of communication regarding the rationale for such changes was evident. This is evidenced by the suboptimal compliance found with medicines reconciliation in Quality Standard 3.

This audit does not capture data on whether every unaccounted change in medication during admission is followed up as a query by GPs with the discharging hospital, and it is possible that the number of queries generated is an underestimate of a more significant problem. GPs will often rely on their professional judgement to make decisions on whether to prescribe medication for a patient when there has been insufficient information included in a discharge summary. Hence the figures noted in the audit may be an under-report.

Clarification of queries around anticoagulation was also prominently reported. This mirrors the experience of local GPs who fed back to RQIA[7] that inadequate, inaccurate or incomplete information with regard to warfarin was the most commonly encountered problem with the medication section of IDDs.

Queries arising from this audit were not graded for potential harm. It is assumed that for those IDDs requiring contact with the discharging hospital a pragmatic decision to resolve the query could not be taken by the GP.

Whilst the figure of 6.6% may seem low it is worth considering that for the 600,000+ inpatient and day case admissions each year in the HSC in Northern Ireland, a 6.6% rate would equate to approximately 40,000 potential queries. This is not insignificant. Comparison with the NHSE SPS audit[9] figure of an 11.6% query rate cannot be reliably made. The English audit was mostly completed by practice pharmacists who most frequently contacted a GP to resolve queries, not the discharging hospital.

Any queries a GP may have after a patient is discharged from hospital need to be resolved swiftly and easily. Best practice would suggest this is most easily achieved through the provision on the IDD of contact details of the medical team that discharged the patient.

Learning points related to audit methodology

The audit did not gather any information about the IDD template used. Anecdotally it is reported that there are many different formats being used between and within trusts, sometimes even within the same ward. Future audits might consider noting the format of the IDD, whether it is handwritten or electronic and also the method employed to transfer the document to Primary Care.

In this audit only IDDs that were received by the GP practice were audited, and IDDs that did not reach the GP were not captured. Future work may expand upon this theme.

It is noted that in the NHSE SPS audit for allergy status to be recorded as compliant all three components has to be completed i.e. sensitising agent, nature and date of reaction. Future audits may wish to consider reporting in a similar manner.

Medicines reconciliation should occur at every transition of care and this audit did not capture if any standardised medicines reconciliation processes existed in Primary Care to ensure GP records were updated appropriately on receipt of the IDD. Involvement of pharmacists in this activity is becoming more widespread and this audit simply noted if there was a pharmacist available in the practices involved in the audit.

Queries which Primary Care may have had with information contained in the IDD were not graded for severity i.e. potential harm, and it may be useful to consider undertaking this activity in future audits.

Resolution of queries needs to be swift and complete and this audit did not measure whether queries were able to be resolved or what difficulties were encountered in doing so. This may be an area which could be expanded upon in order to inform any future work on a formal pathway for resolution of queries from Primary Care post-discharge.

Findings of Note

The audit's steering committee recognise that 100% of IDDs should contain accurate and complete information regarding a patient's medicines. However, in this audit a realistic and achievable target of 90% was set for the quality indicators. Unfortunately this level of compliance was not attained for any of the quality indicators audited.

Highest compliance was noted with documentation of allergy status (84.2%). Other results such as medicines reconciliation demonstrate an improving picture as noted by RQIA[7] in 2014.

Electronic transmission of IDDs to Primary Care is still not common-place in Northern Ireland, as illustrated by less than 23.1% of IDDs being received by the GP within 24 hours of discharge.

It is evident that development of a standardised discharge template for warfarin was prompted by the NPSA alert published in 2007 but this has not been adopted for other anticoagulants now in use with the result that vital information regarding a patient's anticoagulant therapy is not being received by the GP on discharge.

In some quality indicators there was wide variation in practice between HSC Trusts and it is apparent that there still tends to be a Trust-specific approach to addressing areas of practice that require improvement rather than a collaborative approach of sharing best practice and implementing a standard system throughout the HSC.

Areas for improvement

This is the first time a regional audit of IDDs has been conducted at scale across Northern Ireland. The results show that there is room for significant improvement across all of the criteria studied. The findings justify the time and effort spent in collecting, collating and drawing conclusions from the data.

The results highlight that improvement is required in the following areas:

1. The time between discharge and receipt of the IDD by the GP is an area which could be improved. Less than half the IDDs were received within 3 days and one-fifth were received after 7 days and this represents an area of risk which should be addressed as priority.

2. Medicines reconciliation for medicines changed, altered or stopped is an area of significant risk and can contribute to re-admissions, critical incidents and follow-up calls to hospital teams for clarification. The provision of an explanation for these medication changes is an area where there is room for significant improvement.

3. Whilst allergy status was documented in 84.2% of IDDs documentation of this critical information could be improved further.

4. In respect of anticoagulation, which in previous years was synonymous with warfarin, the addition of DOACs and the growing use of enoxaparin have increased the complexity related to this high risk area. The findings of low adherence to best practice across the range of anticoagulants identify this area as one requiring thorough and urgent attention.

Recommendations

On consideration of the findings of this regional audit on IDDs the following recommendations are made:

1. A regional quality improvement project should be established involving representatives all HSC Trusts and Primary Care aimed at improving the quality and safety of IDDs.

2. An agreed template for the IDD should be developed in conjunction with Primary Care and adopted by all HSC Trusts. This should include mandatory fields to ensure that all quality indicators are completed appropriately.

3. Initiatives aimed at the timeliness of delivery of the IDD should be implemented across all HSC Trusts. Where possible the IDD should be generated and delivered electronically.

4. A regional anticoagulation template within the IDD as a means to communicate all necessary information on all anticoagulants (including warfarin, DOACs and injectable anticoagulants) should be developed.

5. Development of a standardised process for local escalation of queries related to the IDD should be pursued.

6. A multidisciplinary educational programme at both undergraduate and postgraduate level should be developed to support best practice and ensure medicines reconciliation is undertaken at all transitions of care.

7. A three yearly full re-audit should be undertaken with an annual interim audit as a learning exercise for medical students in the pre-Foundation Assistantship Programme.

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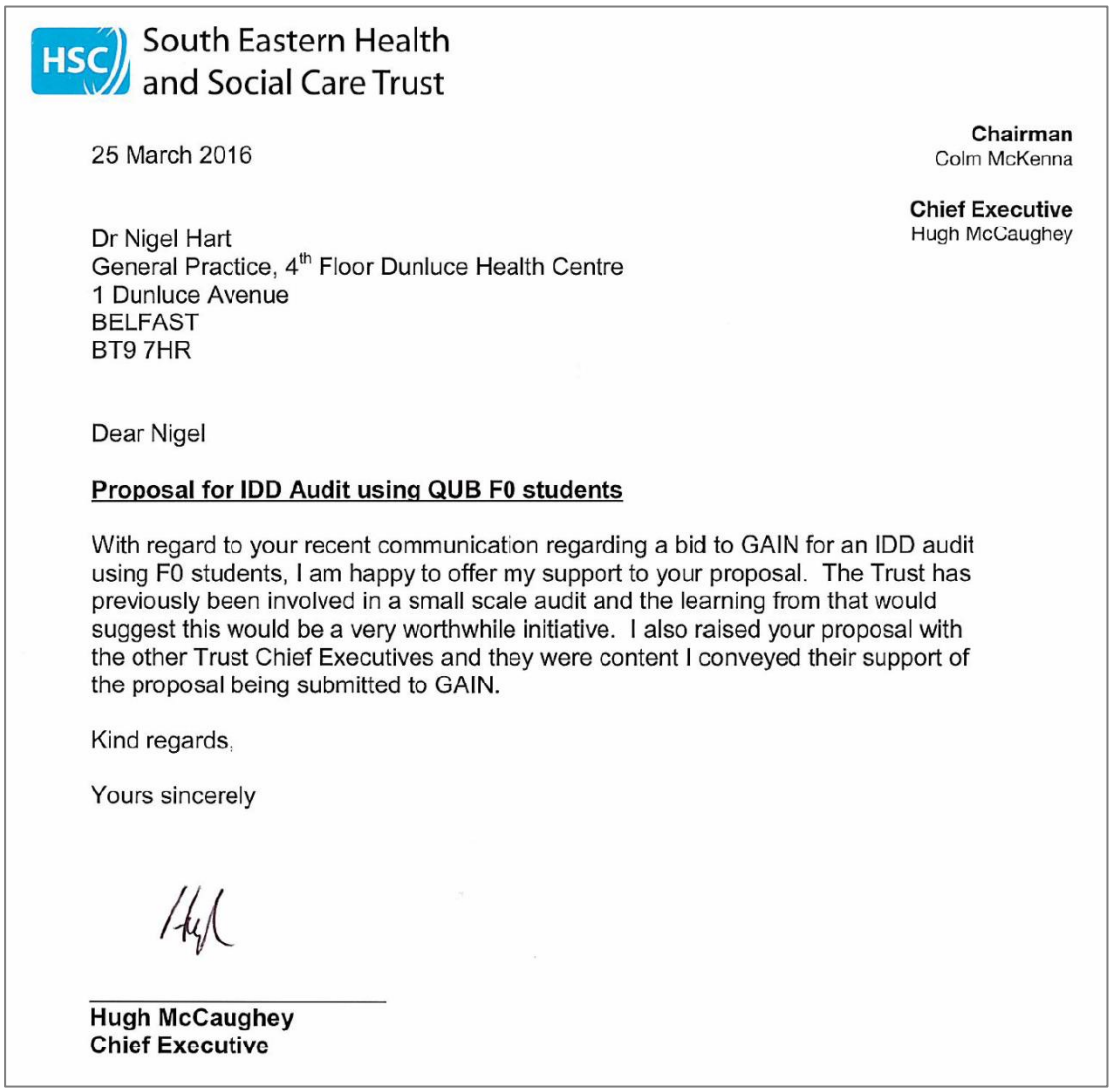
Appendix 1: Chief Executives Letter of Support



South Eastern Health and Social Care Trust

25 March 2016

Chairman
Colm McKenna

Chief Executive
Hugh McCaughey

Dr Nigel Hart
General Practice, 4th Floor Dunluce Health Centre
1 Dunluce Avenue
BELFAST
BT9 7HR

Dear Nigel

Proposal for IDD Audit using QUB F0 students

With regard to your recent communication regarding a bid to GAIN for an IDD audit using F0 students, I am happy to offer my support to your proposal. The Trust has previously been involved in a small scale audit and the learning from that would suggest this would be a very worthwhile initiative. I also raised your proposal with the other Trust Chief Executives and they were content I conveyed their support of the proposal being submitted to GAIN.

Kind regards,

Yours sincerely

Hugh McCaughey
Chief Executive

Appendix 2 : Chief Medical Officer Group Letter of Support

CHIEF MEDICAL OFFICER GROUP
DR ANNE KILGALLEN
Deputy Chief Medical Officer

Department of
Health, Social Services and Public Safety
www.dhsspsni.gov.uk

Tel: 02890 520716
Fax: 02890 520573
Email:anne.kilgallen@dhsspsni.gov.uk

BY EMAIL

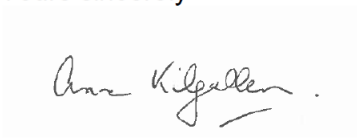
Nigel Harte

Your Ref:
Our Ref:
Date: 7 March 2016

Dear Nigel

I am pleased to support your proposal for a regional audit of medicines reconciliation in the context of Immediate Discharge Documentation. I understand that your plan is to use the learning from the audit as a starting point for quality improvement which will involve the Foundation Programme doctors. I know that you and your colleagues have made considerable effort to galvanise support for the audit so that it is welcomed by the Trusts, which I think is essential if there is to be learning.

Yours sincerely



DR ANNE KILGALLEN
Deputy Chief Medical Officer

Appendix 3 - Briefing document to Final Year Medical

GP Assistantship Audit 2016

Immediate Discharge Document (Discharge Letters)

Immediate Discharge Documents (IDDs) (often referred to as discharge letters) are an important method for onward care of patients being discharged home from hospital. In addition to the printed copy we gave you the GAIN Guidelines for IDDs can be seen here: http://www.gain-ni.org/images/Uploads/Guidelines/Immediate-Discharge-secondary-into-primary.pdf

This guideline states the following:

> *Clear and complete documentation in a patient's health record is directly linked to the quality of care they receive. Detailed and accurate documentation helps reduce negative outcomes, by ensuring that all clinical staff caring for patients have access to the information they need to deliver a good standard of care.*
>
> *The information conveyed at the time of discharge from hospital has always been an important element of communication between secondary and primary care. The immediate discharge summary is therefore among the most crucial pieces of documentation in the health record, as it is the basis of communication between secondary and primary care and essential for ensuring quality and continuity of care.*
>
> *A major issue with discharge documentation has been the provision of accurate medication information.*
>
> *An audit of the quality of medication information in 2009 in Northern Ireland showed that:*
>
> - *there was limited access to computers resulting in a large number of handwritten prescriptions*
> - *illegible prescriptions*
> - *lack of dosing details on warfarin prescriptions*
> - *lack of information to explain changes in medication during in-patient stay or monitoring requirements*

The 2016 Audit

Audit is an important part of improvement and we have the opportunity in this 2016 Assistantship in partnership with you as FOs, GAIN and the Trusts, to audit how well we are currently doing in terms of the quality of the discharge process. To obtain a snapshot in this way at scale across the region is quite unprecedented and will contribute, not only to your insights, but also to identify targets for further Quality Improvement work in our local Health Service.

Thank you for you participation.

This document contains a step-wise flowchart of how to conduct the audit. You will receive a personalised (only you can use it) SurveyMonkey Link by email in advance of your GP Assistantship week. You will be asked to complete your audit on 5 IDDs. We have attached a proforma at the end of this document which you can print off 5 times for the initial data-gathering but you should subsequently transcribe the 5 IDD audits to the SurveyMonkey Link.

Audit Flow-Chart

Tell your tutor at the start of the week that you need to gather up 5 discharge letters of recently discharged patients.

1. Start your planning at the beginning of the GP Assistantship week
2. Collect 5 consecutive IDDs recently arrived in your GP practice (Preferably before any medication changes have been updated)
3. Get a print out of the pre-admission medication
4. Compare medication records before admission and after discharge
5. Complete Audit Proforma (see below) for the 5 discharges
6. Transcribe the audit data on to the emailed SurveyMonkey Link
7. Reflect on your findings:
8. Were audit standards met?
9. Discuss your general reflections with your GP tutor and cluster group

Appendix 4 – Audit Proforma

Assistantship IDD Audit

Queen's University Belfast - GP Assistantship IDD Audit

Thanks for taking part in this audit. This is a unique opportunity to help make our Health Service safer.

When people are discharged from hospital they have often had medications stopped, started or doses altered. The important information is communicated to the General Practitioner through the Immediate Discharge Document (IDD) - often referred to as the discharge letter. To ensure patient safety it is important that completion of the IDD is timely and accurate. As Foundation doctors you will play an important role in this process.

Did you know?

- 38% of re-admissions to hospital are considered to be medicines-related
- 61% are identified preventable
- Among older patients (65+ years) 14% are discharged with medication discrepancies and have a higher risk of being readmitted to hospital within 30 days
- 72% of adverse events after discharge are due to medication errors

Taking part in this audit will be educational for you as future F1s but your participation will also help to make our local health service safer. The accrued information will be used by Health Trusts, GAIN, and the NIECR team.

Here are the instructions:

1. Ask your GP Tutor to select 5 IDDs at random at the start of the week (Preferably before any medication changes have been updated)
2. Copy them and number them 1 to 5
3. Examine each IDD and compared with the existing GP record of pre-admission medication using the repeat prescribing record on the Clinical System in your Practice
4. Complete each of the 5 sections below

* 1 Please enter your student-id

3 Please select Trust / Hospital

Other (please specify)

* 4 Please select discharging specialty

* 5 Please select the length of time between discharge and the letter arriving in the Practice

* 6 Please input the total number of medicines on the IDD

Now look at the discharge medication list on the IDD and the pre-admission medications on the GP Clinical System, including repeat and recent acute prescribing

For **NEW** medications:

* 7 **A** - How many **NEW** medications did you identify on the IDD?

* 8 How many of these **NEW** medications were highlighted as **NEW**?
(N.B. The number should be lower or equal to the value in question **A** above)

* 9 For how many of these **NEW** medications is a reason recorded?
(N.B. The number should be lower or equal to the value in question **A** above)

For **CHANGED** medications (Dosage or Frequency) :

* 10 **B** - How many medications on the IDD were **CHANGED** (Dosage or Frequency)?

* 11 How many of these **CHANGED** medications were highlighted as **CHANGED**?
(N.B. The number should be lower or equal to the value in question **B** above)

* 12 For how many of these **CHANGED** medications is a reason recorded?
(N.B. The number should be lower or equal to the value in question **B** above)

For medications that were **STOPPED**:

* 13 **C** - How many prior medications were **STOPPED**?

* 14 How many of these **STOPPED** medications were highlighted as **STOPPED** on the IDD?
(N.B. The number should be lower or equal to the value in question **C** above)

* 15 For how many of these **STOPPED** medications is a reason recorded?
(N.B. The number should be lower or equal to the value in question **C** above)

In respect of **ALLERGY STATUS**:

* 16 The Allergy Status on the IDD was:

- ○ Completed
- ○ Not completed

* 17 For the detail associated with Allergy Status:

	Yes	No	Not Applicable (Select if No Allergy)
The sensitizing agent is noted	○	○	○
The allergy reaction is noted	○	○	○

In respect of **ANTI-COAGULATION**:

* 18 If the patient is on **ANTI-COAGULATION** Please select the relevant agent from the list below (If none then Please Select NONE):

* 19 For ANTI-COAGULATION please complete the following (Select 'Not Applicable' if not on anti-coagulation):

	Yes	No	Not Applicable
Was a separate, standardised anti-coagulation template attached to the IDD?	○	○	○
Was the indication for anti-coagulation noted?	○	○	○
Was the duration of anti-coagulation noted?	○	○	○
Was patient counselling about anti-coagulation noted?	○	○	○

* 20 Is there a pharmacist available in the GP Practice for medicines reconciliation?

- ○ Yes
- ○ No

In respect of **QUERIES/CLARIFICATIONS** about the IDD:

* 21 **D** - Was there a need to contact anyone in the discharging hospital to clarify or resolve any issues related to this discharge (Please check with your GP Tutor if unsure)?

- ○ Yes
- ○ No

22 If Yes to question **D** above please briefly describe (ensuring that no patient-identifiable information is included) the type of query or clarification?

Appendix 5: Audit notification and reminder emails sent to QUB medical students by the academic leads for the GP Assistantship

Email Subject: QUB GP Assistantship - IDD Audit 2016 Cohort 3 w/b 18th April 2016

Dear QUB F0

Cohort 3 - w/b: 18th April 2016

Further to previous emails.....this is your unique data entry link for the GP Assistantship Audit. The Begin Survey link is at the bottom of this email.

Immediate Discharge Documents (IDDs) (often referred to as discharge letters) are an important method for onward care of patients being discharged home from hospital. In addition to the printed copy that we gave you the GAIN Guidelines for IDDs can be seen here: https://www.rqia.org.uk/RQIA/files/73/734a792f-f9d4-47f0-830f-31f9db51c82a.pdf

For the Audit:

1. Start your planning at the beginning of the GP Assistantship week
2. Collect 5 consecutive IDDs recently arrived in your GP practice
3. Get a print out of the pre-admission medication
4. Compare medication records before admission and after discharge
5. Complete Audit Proforma in the PDF document already sent to you for the 5 discharges
6. Transcribe the audit data on to the SurveyMonkey Link below
7. Reflect on your findings
8. Were audit standards met?
9. Discuss your general reflections with your GP tutor and cluster group

Dr Janet Rogers
Dr Nigel Hart

Follow-up Email sent to those who had not completed the data entry

QUB GP Assistantship - IDD Audit 2016 Cohort 3 w/b 18th April 2016 - Final Call

Dear QUB F0

Cohort 3 - w/b: 18th April 2016

IDD Audit - Gentle Reminder

You are one of x people who are yet to complete the IDD Audit. Please complete at the earliest opportunity to allow us to close the audit.

The Begin Survey link is at the bottom of this email.

Dr Janet Rogers
Dr Nigel Hart

Appendix 6 – Distribution of Auditors and GP Practices Taking part in the Audit

Location	Number of student auditors	Number of GP practices	GP Practices involved GP = Group practice FP = Family Practice HC = Health centre MC = Medical centre MP = Medical practice	
Belfast	97	22	Burns, Dr Gerry - Duncairn MP Colton, Dr Fiona - Dr Chakravarty & Partners Conn, Dr Paul – Ballygomartin GP Dugan, Dr Joe - The Surgery Durkan, Dr John - Parkside Surgery Finlay, Dr Shaun - Cherryvalley Gp Practice Harley, Dr Aine - Dunville HC Haslam, Dr Laurence - Dundonald MC Kelly, Dr Barry - Springfield Road Surgery Leitch, Dr Andrew - Castlereagh MC Loughrey, Dr Paul - Salisbury MC	Magee, Dr Bob - South East FP McCullagh, Dr Rose - Grosvenor Road Surgery McCutcheon, Dr Andrew - Greenway Practice McGowan, Dr Damien - Springfield MC McIver, Dr Scott - The Irwin Practice Millar, Dr Gillian - Harland Medical Practice Millar, Dr Jonathan - Kerrsland Surgery Mitchell, Dr Mary - Linen Court Surgery Ryan, Dr Peter - Ravenbank Surgery Thompson, Dr Mark - Eastside Surgery White, Dr Naoimh - The Rowan Tree Family MP
Northern	50	18	Aicken, Dr Alastair - Portglenone HC Bradley, Dr Stephen - Old School Surgery Brown, Dr Peter - Smithfield MC Davison, Dr Paula - Glengormley Practice Fannin, Dr Shauna - Ballymoney HC Grant, Dr Dermot - Glens of Antrim MC Gray, Dr Sandra - Coagh MC Jennings, Dr Robert - Glengormley Practice Kyle, Dr C J - Glengormley Practice	Logan, Dr James - Ballyclare HC McCollum, Dr Jenny - Garden Street Surgery McEntee, Dr Siobhan - Glengormley Practice McKenna, Dr Michele - Drs Turk & McKenna Practice McLaverty, Dr Eimear - Glengormley Practice O'Kane, Dr Martin - Dalriada Family FP Shepherd, Dr Philip - Inver Surgery Spence, Dr Colin - Tramways MC Tracey, Dr Turlough - Killowen MC
South Eastern	38	12	Craft, Dr Nina - Woodbrooke MP Creaney, Dr Jane - Stream Street Surgery Gardner, Dr Nick - Dr Cairns & Partners Gunn, Dr Sheila - Saintfield HC Leggett, Dr Chris - Donard FP Mason, Dr Ursula - Carryduff Surgery	Miskelly, Dr Edel - Clough Surgery Moles, Dr Iain - Lisbane M C Murray, Dr Andrea - Carryduff Surgery Poland, Dr Karen - Montalto MC Rogers, Dr Janet - Carryduff Surgery Stout, Dr Caroline - The Surgery 5
Southern	34	10	Boyd, Dr Walter - The Valley MP Brannigan, Dr Ronan - The MC Clarke, Dr Stephen - The Meadows FP Dillion, Dr Jonathan - Banbridge Group Surgery	Fearon, Dr Tinekea - Willowbank Surgery Keown, Dr Adrienne - The Old Forge Surgery McAuley, Dr Raymond - Lough MC McMullan, Dr James - Aughnacloy Surgery Potter, Dr Christopher - Errigal MC Wright, Dr Wesley - Markethill HC
Western	37	13	Boyle, Dr Noel - Glendermott Medical Cathcart, Dr Mark - Dr Cathcart & Partners Doherty, Dr Amy - Eglinton MP Doherty, Dr Patrick - Dr Patrick Doherty FP Dolan, Dr Derval - Riverfront Medical Dolan, Dr Miriam - Maple GP Gallagher, Dr Shane - Claudy H C	Mace, Dr Donna - Aberfoyle M P Mallon, Dr Maria - Dr Mallon & McConville's Practice McCallion, Dr Nial - Cityview Medical O'Hagan, Dr Simon - Bayview M C Robinson, Dr Diane - Mourneside M P Walsh, Dr Karen - Riverside M P
Total	256	75		

Appendix 7 – List of Final Year Medical Student Auditors

Adams	C
Ahmad	N
Ahmad Asmadi	A
Aitken	C
Allen	L
Anderson	C
Anderson	G
Andrews	C
Austin	D
Ball	M
Barrow	H
Beatty	A
Bin Mohd Hawari	M L
Black	T
Boo	S L
Booley	Z
Boyle	N
Bradley	G
Brady	A
Broughton	E
Brown	A
Brown	A
Brown	A
Brown	C
Brown	J
Burke	L
Burney	M
Burns	L
Cairns	S
Campbell	C
Campbell	U
Cantley	N
Carney	O
Carroll	D
Cass	A
Catherwood	N
Chieng	G Y
Chiew	J Y
Chong	A
Clements	J
Close	H
Cochrane	K
Coghlan	T
Colgan	M
Conway	T
Cooney	A
Copeland	P

Corr	C
Corr	M
Coyle	L
Coyne	C
Craughwell	M
Crawford	Ni
Curran	C
Curran	S
David-Okugbeni	O
Deery	M
Devine	A
Doherty	L
Doherty	M
Doherty	N
Donnan	H
Donnan	L
Donnelly	C
Douglas	A
Duffy	P
Dunnion	S
Dunwoody	E
Durkan	E
Easa	J
Ellis	T
Ellison	M
Everett	R
Fair	K
Farooq	H
Farrow	A
Fasanya	O
Fiberesima	H
Finn	B
Fitzsimons	E
Fitzsimons	S
Furey	M
Furey	S
Gilmore	C
Gilmore	K
Goggins	A
Goodfellow	J
Gordon	L
Gouk	J
Graham	O
Gregg	C
Grimason	E
Hackett	B
Hall	I

Halliday	M
Hamill	A
Hann	P
Harkin	M
Headden	D
Henderson	C
Henry	C
Herron	A
Hill	N
Ho	C J
Holmes	J
Hopkins	B
Hucks	A
Huey	A
Hwara	T
Ikram	H A
Irvine	A
Irvine	A
Irwin	A
Irwin	M
Jackson	E
Jamaludin	N F
Jardine	R
JD	S
Jordan	C
Judd	E
Kane	D
Keane	D
Kee	K
Kelly	N
Kennedy	G
Kevin	B
King	G
King	M
Kolluru	S
Kwateng	C
Lai	J
Lau	C L
Laverty	L
Lawrance	L
Lee	S
Lee	S C
Lim	Y Sn
Little	M
Lockhart	S
Loo	K P
Loughran	C

Lua	B X
Lynas	C
MacCorkell	J
MacDonnell	P
Makotore	S
Maniarasu	S
Marshall	L
McAlister	P
McBeth	A
McBride	A
McCallion	N
McCaughey	P
McClelland	K
McClintock	A
McClure	B
McConville	M
McCreesh	G
McCullagh	C
McCurdy	G
McDowell	J
McFarlane	H
McFarlane	N
McFaul	L
McGartland	L
McGinley	S
McGrath	A
McGrath	C
McGuigan	C
McIlwaine	S
McKee	M
McKee	P
McKelvey	S
McKendry	A
McKeone	C
McLaughlin	C
McLaughlin	J
McMullan	R
McMurray	O
McNarry	A

McNeice	J
McPeake	C
McVeigh	L
Mitchell	O
Mohandas	P
Mohd Idris	M
Moore	A
Moore	C
Moore	F
Moore	M
Morton	L
Mullan	C
Mulligan	S
Murdock	S
Ng	C Y
Nolan	C
Norris	P
Nour	R
Nugent	P
O'Donnell	S
O'Hagan	E
O'Hagan	S
O'Hara	K
O'Neill	N
Palmer	L
Paterson	T
Philson	E
Quinn	G
Quinn	R
Razzaghi	C
Reid	R
Reilly	L
Reynolds	Z
Ritchie	G
Rockell	T
Roddy	E
Roddy	O
Ryan	D
Saadi	F A

Safdar	S
Scullion	S
Sheehan	C
Sheppard	C
Siddiqi	A U
Simpson	V
Sivakumar	A
Sloan	C
Spriggs	H
Stewart	C
Stewart	H
Stewart	R
Su	C
Tan	P C
Teo	W N
Thompson	C
Thompson	J
Todd	A
Toner	C
Toner	E
Toner	E
Toner	M-B
Tse	J
Vanderpuye	M
Walsh	B
Ward	O
Weller	S
Wells	S
Whitcroft	H
Wightman	C
Wileman	F
Wilson	L
Wilson	S
Wood	A
Yap	W H
Yow	L P S
Zarkasi	Z A

Appendix 8 – IDDs Audited by Hospital

HSC Trust	Hospital	Number	Trust Percent
Belfast Trust	RVH	214	48.4
	BCH	134	30.3
	Mater	66	14.9
	Musgrave	21	4.8
	RBHSC	7	1.6
	Total	**442**	**100.0**
Northern Trust	AAH	140	72.9
	Causeway	49	25.5
	Whiteabbey	2	1.0
	Mid-Ulster	1	0.5
	Total	**192**	**99.9**
South Eastern Trust	UHD	181	73.9
	Downe	37	15.1
	Lagan Valley	25	10.2
	Ards	2	0.8
	Total	**245**	**100.0**
Southern Trust	CAH	109	75.7
	Daisy Hill	34	23.6
	Lurgan	1	0.7
	Total	**144**	**100.0**
Western Trust	ALT	146	75.6
	Lakeview	3	1.6
	SWAH	43	22.3
	Tyrone County	1	0.5
	total	**193**	**100.0**
n/a	Unidentifiable	24	1.9
Grand Total		**1,240**	

Appendix 9 - IDD audited by Speciality (all Trusts)

Individual Speciality	Total Number of IDD audited	Percent
Medicine	594	47.90
Surgery	254	20.48
Cardiology	127	10.24
Care of the Elderly	98	7.90
Obs & Gynae	44	3.55
Trauma / fractures	31	2.50
Paeds	26	2.10
ED	20	1.61
Psychiatry	18	1.45
Ophthalmology	4	0.32
Other	24	1.94
Total	**1,240**	**100**

Appendix 10 - Results by Trust

Criteria	Overall NI figure	A	B	C	D	E
Medicines data						
Mean total medicines on IDD	**8.0**	7.7	8.2	8.5	8.6	7.3
Mean number of medicines annotated as 'new' on IDD	**2.0**	1.9	2.1	1.8	2.3	2.0
Mean number of medicines annotated as 'changed' on IDD	**0.35**	0.29	0.33	0.39	0.49	0.38
Number of medicines annotated as 'stopped' on IDD	**0.60**	0.60	0.65	0.69	0.49	0.52
Allergy documentation						
Percentage: Allergy status completed	**84.2**	72.9	88.0	92.2	94.4	92.2
Percentage: Sensitising agent noted	**80.6**	64.8	92.5	92.8	89.8	91.0
Percentage: Allergy reaction noted	**18.9**	8.8	37.3	22.9	25.0	17.9
Receipt of IDD by GP						
Median time for receipt of IDD by GP (days)	**3.75**	4.03	4.11	3.52	3.53	3.51
Percentage: IDD received within a day	**23.1**	23.4	30.2	26.6	18.2	16.2
Percentage: IDD received within 3 days	**47.6**	44.9	46.6	50.2	51.0	50.8
Percentage: IDD taking >7days to reach GP	**20.9**	17.9	36.0	20.3	14.7	18.3

Medicines reconciliation	Overall NI figure	A	B	C	D	E
Percentage of 'new' medicines highlighted as new	**69.3**	59.0	78.3	76.3	85.5	61.5
Percentage of 'changed' medicines highlighted as changed	**72.1**	67.2	82.5	71.6	85.7	57.5
Percentage of 'stopped' medicines highlighted as stopped	**74.5**	60.6	91.2	74.7	86.4	80.2
Percentage of 'new' medicines with rationale for prescription stated	**34.5**	31.7	32.1	41.5	40.2	30.6
Percentage of 'changed' medicines with rationale for change stated	**36.2**	32.0	41.3	37.9	44.3	31.5
Percentage of 'stopped' medicines with rationale for discontinuation stated	**55.2**	36.4	78.4	63.5	59.1	61.4
Anticoagulation						
Percentage of patients prescribed an anticoagulant	**20.2**	19.7	23.4	18.4	25.0	17.1
Percentage of all anticoagulants for which a standardised template used	**28.4**	18.4	35.6	35.6	25.0	30.3
Percentage of patients prescribed warfarin for which a standardised template used	**58.9**	38.7	100.0	81.3	50.0	50.0
Percentage of patient prescribed enoxaparin for which a standardised template used	**18.9**	15.8	0.0	28.6	7.1	45.5
Percentage of all anticoagulants for which indication for anticoagulation noted	**61.3**	46.0	71.1	75.6	66.7	51.5
Percentage of all anticoagulants for which duration of anticoagulation noted	**53.8**	48.3	57.8	53.3	61.1	45.5
Percentage of patient counselling about anticoagulants noted	**22.6**	11.5	11.1	35.6	27.8	24.2
Queries on IDDs						
Percentage of IDDs with need to resolve issues	**6.6**	5.9	3.6	8.2	3.5	10.4

Appendix 11 – Queries on IDDs

Pre-admission Medicines omitted from letter
To find out whether the patient was to continue all the other pre admission medication, or change doses or discontinue the medication
There were two medications the patient is regularly on that were omitted from the IDD. I had to phone the ward to clarify if these were stopped in hospital or if they were omitted by mistake.
Patient had history of TIA and should be on aspirin. Aspirin not included in IDD. Query if Aspirin was stopped or still to be continued as she had pacemaker inserted. Upon query, aspirin should be continued and IDD to be amend.
Medicines missing from discharge list. Not noted as stopped.
no repeat meds listed on the IDD -need to check if the patient still to take previous repeat meds
Citalopram was not included on discharge summary but the patient thought they had been receiving it in hospital
Mirtazepine was not listed on discharge summary, query had patient received this in hospital ?
Patient was an elective admission & was admitted for one night only.Discharge letter contained only details of new pain relief. Assumed discharging doctor meant to write 'medications to continue as per GP' but this was not done. To phone discharging doctor to confirm
Medications missing from prior to admission
patient was on aspirin 75 mg od prior to admission- no note of removal or intentional omission of the drug on discharge. Called Dr secretary who was unable to clarify. Awaiting response.
no medications were recorded on the discharge letter however patient was on 8 medications prior to admission
co-codamol not on recent discharge letter, patient contacted to see if he still requires this
NB NOT RELATED TO QUESTION D: Patient was on 3 medications prior to admission but was admitted as a planned day case for hysteroscopy and left hospital the same date she was admitted.
Drug missing from discharge letter. Unknown if stopped.
7 medications not recorded as stopped but don't appear on discharge letter.

Clarification re stopped or held medicines
Unsure if antihistamine stopped and if so should it remain stopped? What was thought to be an allergic reaction to hair dye turned out to be post infective glomerular nephritis.
Had to ring ward pharmacist in Hospital to see if Furosemide 40mg OD and Metformin 500mg BD could be restarted as it has been previously stopped on admission 2 weeks prior and was stated these medications were to be held due to AKI, however since they had been restarted there was no mention of recent kidney function and no further follow up from GP required
asked for GP to check BM on discharge as metformin held - ?last BM and whether pt checks own or to come in to practice
ramipril put on hold but not told when to recommence or why
Contact was made to clarify whether the patient was commenced on pregablin as this information was written in the 'medications stopped' section
TO CLARIFY WHY DRUG WAS STOPPED
Patient was inpatient in Hospital - ACEi dose increased from 4mg to 8mg, he developed AKI and witheld ACEi and discharged with view to restart at 4mg. Patient then admitted to Downe for short admission and discharged home still off ACEi for GP to review U+E and restart ACEi when improved at 8mg dose. There were two discharge letters and a discrepancy over what dose to restart the patient on. Contacted hospital and advised to stick with original 4mg dose.

Clarification re new medicines
plan re digoxin and clarify new medications which have no indication
discharged on antibiotics but not on discharge script
Patient started on iron but not marked as a new medication, was this an error/ why started
Risperidone commenced with no indication, dose adjustment information or GP actions/follow-up notes - I called the secretary of the consultant and clarified these points
IDD says patient should start on apixaban if no more falls. GP finds this vague and wants to call to clarify
patient started on amlodipine but no reason given and not mentioned on discharge letter. Query if this was only medication for hospital inpatient use or is she to remain on it long term?
why was a benzodiazipine started and it it to be continued, not written onto IDD
Ramipril was supposed to be commence as per Heart Failure nurse, this was not included on discharge letter. Hosp Pharmacy and patient contacted, confusion re: ramipril. Heart Failure Nurse contacted, to review and decide re: ramipril
very similar to other discharges form this ward - the discharge proforma used is confusing as it includes many medications the patient has never been on, but MAY need in the pre or post natal period. The proforma of medications included labetalol which stated that 1 week supply was given to the patient with no dose entered. The GP had to chase this up to check if the patient was actually discharged on this drug.
A drug was stated on the discharge letter as having been increased during admission however the patient didn't appear on either the GP system or NIECR to have been on the drug pre-admission. Clarification was sought as to whether this drug had in fact been started during admission and was in fact new (upon contacting the prescribing doctor it was a new drug). Secondly, another drug (a K+ sparing diuretic) the patient was on pre-admission was not included on the discharge letter and it was not clear if this drug had in fact been stopped during admission (this is still trying to be resolved).
pharmacy had to be contacted as this patient was discharged on PPI and ranitidine and a query was raised as to whether this was meant to be. and this patient was a weekly dispensed patient so this discharge had to be discussed with the community pharmacist.
Query antibiotic regime
MEDICATIONS DISCHARGED ON AND WHY THEY WERE COMMENCED
Date of discharge Length of antibiotic therapy Dose of labetolol Dose of ferrous fumarate
Codeine prescribed 30-60mg 4-6 hourly gives a range of 90mg to 240mg per day. What is the suggested amount?
Doctor wanted to check about PRN pain relief given and a query about opoid toxicity that had occurred previously.
Clarification re dose changes
Increased dose of bisoprolol. Needed to enquire as to whether this was changed intentionally
AMITRYPTILLINE DOSE REDUCED FROM BD TO OD
Some medications (bumetanide, spiriva, seretide) were changed (to furosemide and ultibro). this was clarified with the discharging doctor
why the patient's antihypertensive medication dose is reduced
As to why ARB was stopped and BB reduced
Bisoprolol increased 2.5mg to 5mg, no reason recorded
Apixaban dose reduced and reason not explained
why metformin had been change to liquid, not clear on IDD
Clarification on reason for changing dose.
To find out the reason why the patient's anti-depressant dose had been increased

No information re medication provided
This patient's discharge letter had a clinical summary but no list of medications included at all though from the patient record they were on 12 medications prior to admission. There is a warfarin template included but it was not filled out at all. The GP practice had to phone to ward to clarify if any medications were stopped, started or changed.
There was no medication included with the discharge letter!
Not indicated what medication they were given for treatment, nor whether the hospital or GP were to organise cardiology referral.
First discharge letter had no medications attached at all had to ring ward and ask for them to send a second discharge summary
Page 3/3 which included the medication and allergy section of the discharge summary was not received by the GP Surgery initially. On ECR it had not been completed.
The 'medication on discharge' was not completed even though there is mention of starting new medications in the 'doctor's comments' section

Anticoagulants Antiplatelets
Warfarin: unclear whether stopped or not in hospital and "INR ASAP" request not forwarded by pt or hospital doctors.
The consultant was contacted to discuss the indication for enoxaparin and shared care guidelines. This turned out to be a mistake in the discharge letter.
To find out what the patients previous doses and INR's had been. To find out if the patient had been counselled on taking warfarin.
Clarify warfarin dosage, warfarin kardex arrived 5 days after IDD
?Need of Clopidogrel after Cardiac Bypass Surgery; Patient not being put on it.
The separate warfarin chart that should have been attached, was not, this meant the GP had to try and chase it down. It was sent to a care home that a patient was due to move to rather than the practice. After this when the GP requested the forms only part of them were sent, the warfarin chart must of been deemed as unimportant.

Incorrect information
Dose of 1 medication on discharge letter incorrect

Conflicting or unclear information received
2 discharge letters sent, dated on the same day. Had to contact hospital to clarify the correct dose of calcitriol as one letter stated 250 nanograms and the other stated 500 nanograms. Issue was resolved.
Two discharge notes received for two different dates (patient's discharge was delayed, and earlier discharge note was not cancelled or amended)
The procedure for which the patient was admitted was very unclear with two different descriptions being given. Hence it was necessary to ring up to find out what had actually been done.

Other
The discharge letter was sent out prior to the patients discharge
Left out clinical information including principal diagnosis and summary of admission. Not signed.
changing meds to a box with weekly dispensing and abbreviations used on the letter.
No information on letter regarding follow up of wound care/stitches. Patient presented to GP post-discharge with dehisced surgical wound.
Need more information about what happened in the hospital
Whether or not a repeat chest X-ray has been booked for 6 weeks.
Patient was informed that there was a problem with her kidneys in hospital however the discharge letter had no information on this. Patient was very concerned and a phone call to hospital was necessary to reassure patient.
GP to check Bone Profile before increasing dose of Calceos
To clarify what is meant in comment's section
Contacted hospital to clarify the procedure carried out as the discharge letter contained very little information on this.
Although I indicated there was no need to contact anyone for clarifications I wanted to highlight that this discharge appears to have been a handwritten letter from a day procedure case for local excision of BCC. The letter was signed by a consultant and had an illegible scribble over the medications section of the discharge form. The GP was incredibly unimpressed and so I wanted to ensure this explanation came with this entry.
As patient was discharged with electrolyte disturbances, does the electrolyte profile need to be repeated when repeating an ECG?
Perianal abscess incision which needs dressing daily, practice nurse to contact hospital for details
Patient had delayed discharge written on discharge form but when speaking to patient it was evident that she had been discharged home and had to return to hospital 3hrs later with urinary retention.
review appointment
A more recent discharge letter was checked for new medication and the GP records were updated from that.
Patient felt unwell post discharge
The Need for patient to be discharged from services and if GP would be happy looking after medication and mental state

Project Number:

KEY (Change status)

1 Recommendation agreed but not yet actioned
2 Action in progress
3 Recommendation fully implemented
4 Recommendation never actioned (please state reasons)
5 Other (please provide supporting information)

Clinical Audit Action Plan

Project title	

Action plan lead	Name:	Title:	Contact:

Recommendation	**Actions required**	**Action by date**	**Person responsible**	**Comments/action status**	**Change stage** (see Key)

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Team members involved

Name	Job Title/Specialty	Trust	Role within Project (data collection, Supervisor etc.)
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Dr Nigel Hart	GP Assistantship Lead	QUB	Co-Project Lead Data input, data cleansing, data analysis, report writing, dissemination of results, internal review
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Michael Stevenson	Statistician	Not applicable	Data analysis
Final Year Medicine year group at QUB	GP Assistantship	QUB/Trusts	Data collectors, data input and data cleansing, dissemination of results
Siobhan Crilly	Regional Audit Facilitator	GAIN	Guidance through course of audit and re-audit
Robert Mercer	Regional Audit Facilitator	GAIN	Guidance through course of audit and re-audit

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- GAIN team Robert Mercer and Siobhan Crilly

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