

# Improving transmission rates of electronic discharge summaries to GPs

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## Abstract

Discharge summaries are a vital tool to communicate information from Hospital to Primary Care teams; updating GPs about what happened during an admission, and handing over care detailing any follow up care required. Historically, Discharge Summaries have been posted to hospitals, increasing costs for hospitals, creating administrative work for GP practices receiving the letters, and resulting in some letters being lost or delayed in reaching the GP, with implications for patient safety if follow up requests are not received and acted upon.

In an effort to improve patient care, the Clinical Commissioning Group in Surrey drew up a contract with Ashford and St Peter's Foundation Trust, aiming to increase the percentage of discharge summaries sent electronically from the rate of 9% sent within 24 hours, to over 75%. This contract set targets of 50% in May, 65% in June, and 80% in July. Financial penalties would be imposed if targets were not achieved, starting in June 2013.

The Trust set up a working group comprising of doctors, IT personnel and ward PAs to devise a multi-pronged solution to achieve this target. The electronic discharge summary system was reviewed and improvements were designed and developed to make the process of signing off letters easier, and transmission of signed off letters became automated rather than requiring manual transmission by ward PAs. Presentations and leaflets to explain the importance of prompt completion and transmission of discharge summaries were given to Doctors to improve compliance using the revised IT system. Figures on transmission rates were automatically emailed to key stakeholders every day (Ward PAs, Divisional Leads) showing performance on each ward. This helped identify areas requiring more intervention. Areas (e.g. Day Surgery) that had not used electronic discharge summaries were engaged with, and persuaded to take part.

As a result, transmission rates of Discharge Summaries within 24 hours of patient discharge increased from 9% on May 11th 2013, to 76% by June 29th 2013. This has improved communication with GPs, led to more reliable handover of care, and reduced costs for the Trust (both in processing and postage costs, and by avoiding fines).

## Problem

GPs in the local area of our hospital raised concerns about the low rates of Discharge summaries being sent electronically within 24 hours of patient discharge. The disadvantages and risks of posting discharge letters from hospitals to GPs include delay in receiving the physical letter and the letter not arriving at all. Patients presenting to their GP soon after discharge from the local hospital might find it difficult to explain what happened during their admission. A discharge summary would provide vital information detailing what happened during the admission, any changes to medication and management, investigations carried out and their results, as well as their follow up arrangements. GPs, through the new Clinical Commissioning Groups, were clear in demanding that the Trust send more discharge summaries electronically, within 24 hours of patient discharge.

By setting up a Working Group of various stakeholders (doctors, nurses, ward PAs, pharmacists, IT staff and others) we identified the issues leading to the low transmission rates.

i) The IT system used to write and transmit the Discharge Summaries required a letter to be signed off by a Doctor, then have the letter checked by Pharmacy (who would then sign off the letter), only then could a Doctor give "Final Sign Off" to the letter, enabling it to be transmitted electronically. The letter could be transmitted by

clicking a button (by Doctor or Ward PA), ideally after the patient was discharged. However, in practice this is not how the system was being used. Doctors would write Discharge Summaries, print them off without signing off the letter on the system, and send the physically signed print out to Pharmacy. A Pharmacist would verify that they had checked the medications on the system, making amendments to the letter as needed, but the vast majority of Doctors did not go back and click "Final Sign Off" after this step, meaning that the letter could not be transmitted electronically.

ii) On occasions where the letter might have been given "Final Sign Off" as described above, the letter should only be transmitted once the patient has left hospital, so generally this was done by ward PAs the day after discharge. However, if patients were discharged when the ward PA was not in, e.g. weekends, Bank Holidays, holidays or sickness, then the letters would not be transmitted within 24 hours of discharge

iii) If a GP Practice is not linked with our hospital electronic discharge summary system (either the GP Practice isn't able to receive such data, or the relevant details were not added by the Trust's IT team) then a letter cannot be transmitted electronically.

iv) If the Date of Discharge is not filled in on the Discharge Letter, the letter could not be sent using our IT system

v) If the patient does not have an NHS number recorded on the system, then the letter could not be sent using our IT system.

vi) Very few doctors and ward PAs were aware of the ability, or importance of using the IT system to send letters electronically. Training in the system did not emphasise the need to sign off letters in the way required for letters to be sent electronically.

## Background

When patient care is transferred from the hospital setting to primary care physicians, it is vital that adequate information is transferred from the hospital to GPs in a timely manner. Delayed communication or inaccuracies in information transfer between hospital and primary care, particularly during the post-discharge period, may have substantial implications for patient safety, continuity of care, patient and clinician satisfaction, and resource use<sup>1-5</sup>. Post-discharge outcomes may improve when patient hospital information is disseminated to follow-up physicians<sup>6</sup>.

The availability of a discharge summary at the first post-discharge visit to primary care is low (12%-34%), and remained unsatisfactory even at 4 weeks (51%-77%), affecting the quality of care in approximately 25% of follow-up visits and contributing to primary care physician dissatisfaction<sup>7</sup>.

An Australian study of war veterans found that 25% of patients saw their GP within 4 days of discharge<sup>8</sup>, highlighting the importance of discharge summaries being sent and received in as short a time as possible. Of 8 studies comparing computer-enabled discharge summary interventions compared to traditional summaries, five showed that the computer based systems generated discharge summaries significantly more efficiently, and were transmitted to the primary care physician more quickly<sup>9-17</sup>.

To gather baseline data from the Trust, we analysed the number of Discharge Letters produced on the computer-generated discharge summary system for one week, and the number of Discharge Letters that were sent electronically to GPs (within the 24 hour target, and outside of that) at the start of May 2013, and compared that to the number of patients discharged. The percentage of Discharge Summaries that was transmitted electronically to GPs within 24 hours of patient discharge was just 9%. The target set by local CCGs for the end of May was 50%.

## Baseline Measurement

All discharge summaries written on the IT system between May 5th and May 11th were analysed. The percentage of those that was transmitted to the GP within 24 hours of discharge was 9% (102/1133).

See supplementary file: ds1985.xlsx - "Baseline data"

## Design

A Process Mapping group met on 14th of May 2013, to look at the

process of discharge patients, and identify any issues leading to the low rate of transmission of discharge summaries electronically. Key stakeholders present were senior and junior doctors, ward PAs, Day Surgery nurses, IT staff, and the local GP Liaison officer. We came up with a range of solutions that needed to be implemented urgently.

i) Having identified the problem around "Final Sign Off" in the current system, the logic of this process was to be amended to allow Doctors to Sign Off a letter, still allow pharmacy to amend the medication sections, and allow the letter to be transmitted without requiring the Doctor to go back to the letter after pharmacy have made amendments to do "Final Sign Off". This IT change was estimated to take 2-3 weeks.

ii) To solve the problem of letters not being transmitted when no Ward PA is present (e.g. weekends, Bank Holidays) an automatic computer job was to be developed, which would look at all patients discharged on the system in the past 24 hours, check to see if they have a Signed Off Letter on the system which has not yet been transmitted, and if so, transmit it electronically. This IT change was estimated to take 3-4 weeks.

iii) Given that the above IT changes would take some time, it was recognised that we needed to improve the transmission rates under the current system. So a concerted effort was made to communicate to Doctors and Ward PAs how important it was that letters were given "Final Sign Off", either on the day of discharge or the following day, so that letters could be sent electronically. Presentations and posters were given to this effect, as well as individual talks to teams on wards where rates were very low.

iv) Day Surgery and Eye Surgery wards used Paper Discharge letters. These groups made up approximately 20% of all discharges from the hospital, so it was vital to get this area using electronic discharge summaries. We engaged with Senior Surgeons and Nurses in these areas to identify problems, and templates were drawn up with their guidance to make the computer based letters as similar to their current paper based ones as possible. The Divisional Director of Surgery was fully supportive of the project, and a presentation was given to the Surgical Directorate to ask all surgical teams to start writing Day Case Discharge Letters using the IT system rather than the paper one. Guides were printed out and placed beside terminals in Day Surgery. Nurses in Day Surgery were trained to show them how to use the system.

v) Presentations were given to different groups of Doctors to explain the need to ensure Discharge Summaries were written on the system, and given Final Sign Off (until such time as this was removed).

vi) When the IT changes to the system around Sign Off were fully tested and implemented in the Live system, further presentations, demonstrations, posters and emails were sent to explain the new process. The IT training team was engaged with to update their training manuals for new Doctors to the Trust, so that they would understand the new system.

vii) An automatic report was created and run every day, which showed the percentage of discharge summaries sent electronically within the past seven days, for each Ward in the Trust. This was then distributed to all stakeholders, and allowed for constant monitoring to identify areas that had improved and deserved recognition of good practice, and identify areas that required further intervention.

## Strategy

As we implemented a number of separate interventions in parallel, it was not possible to measure, monitor and analyse each intervention independently.

### PDSA Cycle 1

Communication to doctors and ward PAs to encourage doctors to do "Final Sign Off" on the system. Persuading Doctors to change their practice in this area was problematic, as it created some additional work for them, and some did not immediately appreciate the positive benefits for patient safety. The initial approach relied on Group Presentations and leaving posters adjacent to computers asking Doctors to ensure that they do Final Sign off of discharge letters. This led to small improvements, but not the widespread adoption we had hoped for.

### PDSA Cycle 2

To further improve completion of Final Sign Off, it was decided to engage Consultants and Ward PAs to highlight the importance of transmitting letters electronically, and the requirement for letters to be given Final Sign Off to enable this. Consultants were asked to encourage their teams to do this, and Ward PAs were asked to contact individual Doctors when they found a letter that had not been signed off gradually led to improved Sign Off rates, enabling more letters to be transmitted. This led to an improvement on many wards.

### PDSA Cycle 3

The IT changes to the system were developed to remove the requirement for Final Sign Off, and automatically send letters which had been signed off if the patient has been discharged. These changes were rigorously tested, and went live on June 17th and 21st respectively. Immediate improvements in transmission rates of letters followed each separate improvement.

### PDSA Cycle 4

Day Surgery and Eye Surgery make up approximately 20% of discharges in our Trust. Previously all discharge letters for these patients were done on paper. It was recognised that these areas must start using electronic discharge summaries for us to achieve our goals to improve transmission rates. Key stakeholders were engaged, and asked how templates for the electronic discharge summary could be modified to make them as user friendly as possible, and requested amendments were implemented within 2 days. A presentation was given to the Surgical Directorate, to

explain to all the Surgical Teams why it was so important that they change their practice from writing paper discharge letters to electronic ones, and the urgency of doing so. The IT system was demonstrated, and all teams agreed that they would begin using the system. The transmission rates for Day Surgery and Eye Ward areas went from 2% at the start of May 2013 to 67% ( 137/203 cases, between 20/6 and 26/6).

### PDSA Cycle 5

As a result of implementation of all the previous changes, the transmission rate was found to have improved from 9% in May 2013 to 76% by 29th of June, 2013. This exceeded the target set by the CCG of 65% to be sent within 24 hours of discharge.

## Results

After implementation of the various measures described, the percentage of discharge summaries sent to GPs electronically within 24 hours of discharge was found to have improved from 9% (102/1133, May 5th-May 11th) across the Trust to 76% (824/1080, June 23rd - June 29th).

See supplementary file: ds1988.xlsx - "Results across all wards, comparing baseline and after"

## Lessons and Limitations

Lessons to be learned from this project show the importance of early identification of the whole range of factors that contribute to a particular problem, then coming up with a comprehensive plan of action to address as many of those factors as possible.

The urgency of any change dictates the next steps - in this project, we understood that the IT changes necessary to improve the Sign Off process of letters would take some weeks. Ideally, we would have waited for those improvements to be implemented, then we could have communicated the single message about how to use the new system of signing off, and why it was important to send letters electronically. However time pressure meant we had to encourage staff to improve transmission rates while using the current system, meaning we had to make those presentations and interventions at the start of the process, and then update and repeat them after we had changed the system. However, the benefit was that it was easier to persuade people to use the new system when they could recognise that it was an improvement on the old one, which they had been using for a few weeks.

We have taken specific measures to ensure the sustainability of this improvement. The IT system has been designed to be as clear as possible to explain to new employees what the sign off functionality means and does. The IT Training department has updated their guides and presentations so they can demonstrate the new system to Doctors who start work in the hospital in future. However, the Trust is planning to change the IT system from the current, proprietary one to a Vendor-provided system. We are engaging with the vendor prior to go-live, to try and ensure that as much of the

current functionality is not lost, so that the transmission rates do not drop when we change to the new system.

This intervention has been cost-effective. It has taken up a small amount of staff time for the project group working on the project, and time for staff to help map the process, and be trained on the new system, but the benefits to better handover of patient care, reduced postage costs to the Trust, and avoiding a fine of £450,000 in June by exceeding the target of 65% of Discharge Letters to be sent electronically within 24 hours of discharge are considerable.

## Conclusion

This project has achieved the very ambitious target set in a short amount of time. Work began on 14th of May, and the range of interventions designed and implemented in a short time increased the electronic transmission rates of discharge summaries within 24 hours of discharge from 9% to 76% by 29th of June. Local GPs have reported a noticeable improvement during consultations with recently discharged patients, and the Trust has avoided a fine of £450,000 by exceeding June's target of 65%. The Trust hopes to sustain this improvement, and training for new Doctors has been updated to reflect our system changes.

It was not possible to measure the effect of any single part of the interventions, as the changes were introduced at the same time. However the combination of engaging with staff at all levels, communicated a coherent message effectively, making system changes to facilitate best practice, and updating people with results has worked well in this instance, and should be applicable to other Trusts.

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## Declaration of interests

Rory Barr and Kuen Yeow Chin are Directors of CB Healthcare Solutions, which provides Consultancy to Healthcare Providers and was employed by Ashford and St Peter's Trust in this capacity.

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