Communication between primary and secondary care

ABSTRACT

Background

Up to date patient data is a cornerstone of optimal safety and care, so admission to hospital requires transfer of data held in the community to secondary care. Despite the advent of electronic medical record systems such as Connecting Care and EMIS, the telephone remains the mainstay of communication.

Methods

A prospective cross-sectional quality improvement project was conducted to assess the time taken in telephone communication between primary and secondary care doctors and determine if access to the electronic shared system, Connecting Care, would improve efficiency. As part of normal junior doctor activity, fifty GPs were contacted between September 2015 and February 2016 to obtain medical data on patients admitted to UH Bristol. Time taken to contact each GP and the duration of the conversation was recorded. One hundred patient records were accessed using Connecting Care between October 2015 and February 2016 and the length of time taken to access information documented.

Results

Out of 50 phone calls 27 resulted in direct transfer to a GP with time to transfer ranging from 12 seconds to 19 minutes 51 seconds (mean 8 minutes 10 seconds, median 7 minutes 16 seconds). A total of 28 messages were left with the receptionist with 16/28 phone calls being returned and time taken for the call to be returned ranged from 34 minutes to 21 hours 3 minutes (mean 5 hours 50 minutes 4 seconds, median 4 hours). Information was available for 88/100 patient records accessed using Connecting Care with a mean duration to access information required of 1 minute 47 seconds. This was significantly shorter than the mean duration of conversation with GPs (4 minutes 22 seconds), mean total duration of telephone call and mean total duration of time to achieve aim of call with GP practices of 13 minutes 18 seconds and 2 hours 14 minutes 11 seconds respectively.

Conclusions

This study identifies areas of potential improvement in current methods of communication between primary and secondary care. Direct telephone contact will always have an important role in sharing information. However, access for secondary care doctors to electronic patient records, with patient consent and consideration for confidentiality, would improve efficiency and alleviate time pressures on both busy primary and secondary care doctors. This would have a positive impact on patient care and safety.

Effective communication between health-care professionals is vital for patient care and safety in the NHS (General Medical Council, 2013). On admission to hospital care is transferred from primary to secondary care. Although hospital medical notes remain largely paper based, GP records are now electronic (Purves, 1996; Chan et al, 2008). Access to patient summaries from electronic systems, e.g. EMIS, provides vital background information, which is especially important to reduce error when a patient is unable to provide an accurate history. Despite access to these methods of communication, telephone conversations have remained an important method of communication between hospital staff and primary care.

Previous studies have shown hospital doctors have difficulty contacting GPs via telephone, and vice versa (Berendsen et al, 2009; OnMedica, 2011). EMIS is now the most widely used GP system in England (EMIS, 2013) and is becoming accessible in hospitals. Connecting Care is an electronic shared record available in Bristol which enables health-care professionals to access a wide variety of information including past medical history, acute and repeat medical prescriptions, allergies and previous investigations. This quality improvement project assessed the ability to obtain this information from GPs via telephone and determine if access to Connecting Care for secondary care doctors would improve efficiency and ultimately patient care and safety.

Methods

A prospective cross-sectional pilot study was conducted in a Yorkshire district hospital between January and March 2014. Thirty GPs were contacted to determine the time taken for secondary care doctors to contact GPs for information and their views on current communication to ascertain the benefit of conducting a further study in order to improve communication between primary and secondary care.

A prospective cross-sectional study was subsequently conducted, with fifty GPs contacted between September 2015 and February 2016 as part of normal care. Outcome measures included date and time of the call, time taken for a receptionist to answer and whether the practice used an automated telephone triage. Transfer time to the patient's usual or duty GP was documented. If a GP was unable to take a direct call, a message was left and time taken for the GP to return the call was recorded. To assess efficiency of access to electronic records, 100 patient records were accessed using Connecting Care between October 2015 and February 2016 instead of or before phoning GP surgeries. The date and time of record access, time taken to access information and whether the desired information was found were documented.

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Statistical analysis was conducted using Prism version 4 (GraphPad Software Inc., San Diego). Statistical significance was evaluated using paired and unpaired Student *t*-tests. A value of $P<0.05$ was considered significantly different.

Results

Figure 1 reflects the outcomes of telephone conversations. Direct transfer to a patient's usual or duty GP occurred in 27 (54%) phone calls with a transfer time ranging from 14 seconds to 19 minutes 51 seconds (mean 8 minutes 10 seconds, median 7 minutes 16 seconds). There was no correlation between the time of day or day of the week rung and the ability to contact the patient's GP.

The mean time for receptionists to answer the telephone was 4 minutes 31 seconds. Thirty-eight practices had an automated triage message service. Although automated messages were long, triaged phone calls had shorter waiting times (mean 3 minutes 6 seconds) for receptionists to answer compared to practices with no automated triage (mean time of 8 minutes 22 seconds). Five practices required several phone calls to successfully be answered by the receptionist (calls were terminated if not answered after 5–10 minutes), four of which did not have automated triaging services.

Contact with the patient's usual GP was possible for eight (16%) patients with the remaining calls to duty GPs. Twenty-eight messages were left with receptionists asking GPs to ring back. Out of 28 GPs, 16 (57.1%) returned phone calls with time taken to ring back ranging from 34 minutes to 21 hours 3 minutes (mean 5 hours 50 minutes 4 seconds, median 4 hours).

Regarding accessing information on Connecting Care, of the 100 patients searched, GP information was available for 88 (88%) patients compared to 38 (76%) for the GP phone calls. Four patients were not available to view because their NHS number was not traced and verified and eight did not have GP information available as their GP practice was not part of the Connecting Care network. A total of 52 records were accessed outside Monday–Friday 9–5 working hours. Mean duration to access information was 1 minute 47 seconds. This was significantly shorter than the mean duration of conversation with GPs (4 minutes 22 seconds), time spent on the telephone to GPs practices of 13 minutes 18 seconds (*Figure 2*, $P<0.0001$) and the total duration of time taken to acquire the required information including time waiting for phone calls to be returned by GPs of 2 hours 14 minutes 11 seconds.

Discussion

Telephone calls were initially conducted after morning or before afternoon surgery to improve the likelihood of direct transfer. This was based on the pilot study which found that ringing during surgery meant the usual GP was often unavailable. However, in this study there was no optimal time of day to ring, and instead calls were received by busy duty GPs using electronic records to find desired information. In contrast, access to Connecting Care was not only significantly more time efficient, but can also be accessed outside normal working hours, highlighting a further advantage of access to an electronic system. Complex situations or information not available on Connecting Care will still require telephone calls but access to this electronic system will significantly reduce call burden on hospital and GP practices.

Comparison with existing literature

The findings of this study are supported by a study conducted by Webb and Ward (2013) to determine the length of time hospital doctors waited to speak to GPs. They found direct transfer to be quick (some in under 25 seconds), direct transfer occurred in 30% of cases and returned phone calls took several hours. In contrast to the current study where most practices could be contacted even if several calls were required, Webb and Ward (2013) found several surgeries had recorded messages with no opportunity to leave messages or were closed during the day (26% of surgeries).

The National Institute for Health and Care Excellence (2015) has stipulated that on admission to hospital medicines reconciliation should be conducted by a qualified health-care professional such as a pharmacist or doctor. A study was conducted in the pharmacy department of the Bristol Royal Infirmary on 140 patients admitted to assess prescribing errors in drug charts completed by the admitting doctor and to determine if access to Connecting Care

Figure 1. The outcomes of telephone conversations to a patient's usual GP and the duty GP at GP practices.

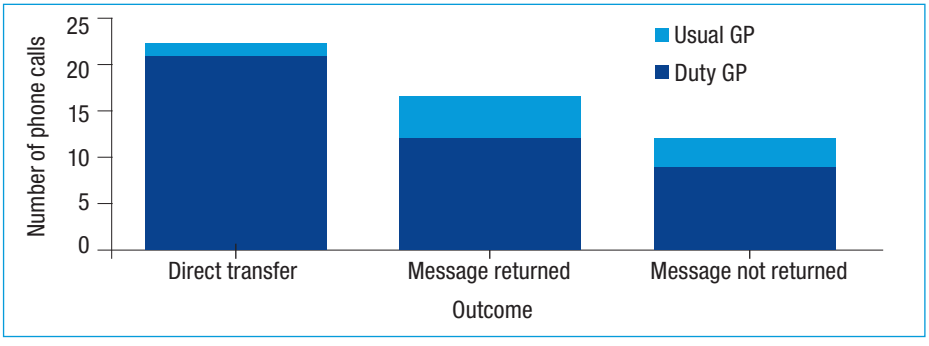
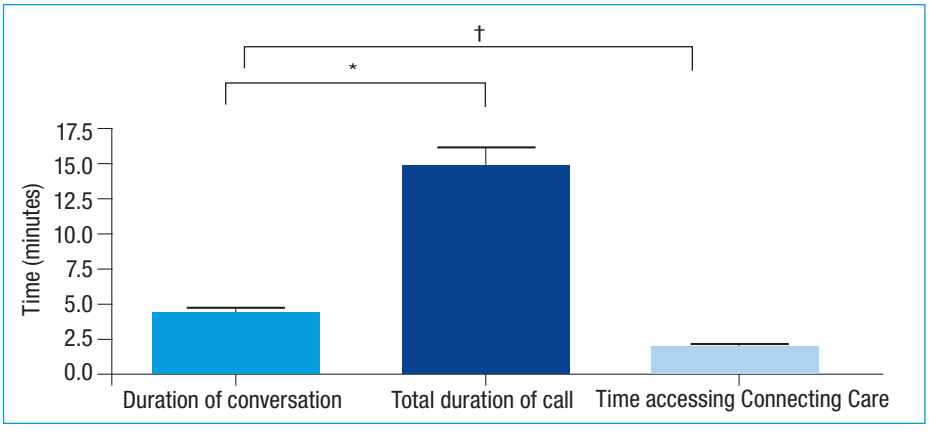


Figure 2. Comparison of duration of conversation with a patient's GP with total duration of telephone call and time required to access information using the electronic medical record system Connecting Care. *Paired Student *t*-test $P<0.0001$, †Student *t*-test $P<0.0001$.



KEY POINTS

- Effective communication between primary and secondary care is vital for patient care and safety.
- Current methods including telephone contact are often an inefficient method for communication.
- Secondary care access to electronic shared care systems provide potential to improve communication, efficiency and subsequently patient care.

for pharmacists and technicians would increase productivity and reduce cost compared to ringing GP practices and faxing information across (A Swenney, unpublished observations, 2013). They found an average of two medication errors per patient admitted (each patient was prescribed an average of 10 medications before admission). Although 98% of errors were for non-critical medications 2% of errors included errors in critical medications including medications for Parkinson's disease and insulin. Access to Connecting Care greatly improved efficiency, negated the use of unsecure faxes, and was estimated to save £12 133.40 per year on the medical admissions ward alone by reducing the time pharmacists and technicians spend reconciling medications. This clearly supports the current study; providing Connecting Care access to the doctors prescribing those medications on admission will not only reduce the time that busy on-call doctors and pharmacists spend finding out which medications a patient is taking but also, more importantly, reduce drug prescribing errors which will improve patient care and safety.

Email would be another alternative and more convenient for GPs to be able to reply when they have an opportunity. However, this approach must be in accordance with Caldicott guidance. Lewis (2012) found that instigating a secure NHS email service was an effective way for GPs to ask advice regarding patients with gastrointestinal symptoms which also subsequently reduced referral rates. However, they had a dedicated email service which was reviewed by consultants on a rota to ensure responses could be sent within 24–48 hours. This would be a time-consuming and costly service for GPs to provide, especially for those surgeries with a low number of doctors. Quicker responses may also be required meaning it would be difficult for emails to be checked regularly enough for this to be an efficient means of communication.

Limitations

The study was a small study conducted in one area. However, the pilot study conducted in a Yorkshire district general hospital found that 40% of GPs responded to messages left and found similar durations for phone calls to be returned as this study. Previous studies assessing the effectiveness of telephone communication support the findings of this study also making them generalizable to the wider population. Although local procedure regarding communication during transfer of patient care and specific electronic patient record systems used will vary across the country, the outcome measures and conclusions of this study do not rely purely on local protocol for their validity and continue to have important implications for wider clinical practice.

Data from Connecting Care were collected by one person, therefore as this person gained experience accessing the system, time taken to access information could be reduced thus introducing bias. However, this would also eradicate variation in time to access information which would occur from computer skills varying between operators. On reviewing data from initial patients compared to final patients included in the study there was no difference in the time taken to access information.

Recommendations and conclusions

Communication between primary and secondary care is clearly important. Different levels of communication are more suitable for different circumstances. Direct telephone discussion between primary and secondary care will always be important in patient care, especially for those with complex medical histories, but it is not without its flaws. Although it can be useful to speak to the duty GP, information provided is based on reading electronic records. Currently, telephone communication is an inefficient use of a doctor's time, but is the only method available. Email would be more convenient for GPs to be able to reply when they have an opportunity, but has security risks. A regularly monitored secure email service would also be a time-consuming costly service for practices to instigate. Therefore, access to shared electronic systems such as EMIS or Connecting Care, taking patient consent and confidentiality into consideration, would substantially reduce the number of telephone calls made to GP practices.

This study identifies potential improvements in current communication systems between primary and secondary care which has long been recognized as a priority for improvement in the NHS. There is clearly scope for improvement as technology and systems develop, but implementations are still required to improve patient care and safety in the future. Access to Connecting Care for hospital doctors with the patient's consent would clearly be effective in improving patient care and reducing time pressures on busy hospital doctors and GPs. **BJHM**

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