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THE AVAILABILITY OF PRE-REFERRAL IMAGING FOR ELECTIVE ORTHOPAEDIC REFERRALS AT THE FIRST OUTPATIENT APPOINTMENT

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Numerous problems have been highlighted in the pathway directing patients with musculoskeletal pathology from primary to secondary care, such as difficulty in identification of the most appropriate service (eg patients referred to orthopaedics when rheumatology is more appropriate), lack of capacity and high demand for orthopaedics, poor availability of diagnostic imaging and long waits for the first outpatient appointment. The net effect is difficulty in reaching the 18-week 'referral to treatment' target. As a result, many primary care trusts (PCTs) have redesigned their musculoskeletal pathways, commissioning a fully integrated service with the intention of increasing the number of patients being managed in the community, thereby reducing demands on secondary care but, where necessary, supporting the achievement of the 18-week target.

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The availability of diagnostic imaging in primary care was seen as a key enabler for reducing the total number of secondary care referrals, as well as expediting referrals for those patients who needed orthopaedic intervention.[1] To prevent the misuse of these resources the Royal College of General Practitioners and the Royal College of Radiologists developed a new framework for primary care access to diagnostic imaging with focused guidance for the use of the most common tests.[2] Consequently, most PCTs signed contracts with third party providers of diagnostic imaging services to avoid overwhelming diagnostic imaging services in local hospitals. However, these investigations are not routinely available on the picture archiving and communication system (PACS) at the first outpatient appointment. Most clinicians therefore rely on images being brought in by the patient or being sent by the GP along with the referral letter.

Any delay in this process means that treatment cannot be initiated until the imaging has been retrieved or repeated. Not only is this costly to the trust but it is extremely inconvenient for the patient. A retrospective analysis was performed to assess how many pre-referral diagnostic images (not including plain x-rays) were actually available at the first elective orthopaedic outpatient appointment.

Methods

We analysed the notes of all new patients seen in the senior author's elective orthopaedic clinic from January 2010 (which coincided with the national rollout of the Image Exchange Portal [IEP]) to January 2011. We looked for evidence of pre-referral imaging in the GP clinic letter, whether it was actually available at the first outpatient appointment and if so, whether it was available in the form of a written report or CD-ROM in the clinician's letter.

Results

A total of 196 new elective referrals were made to the senior author's clinic between January 2010 and January 2011. Of these, 22 patients (11%) had pre-referral imaging (either computed tomography or magnetic resonance imaging), all carried out by InHealth. Only 5 of the 22 referrals (23%) had a CD-ROM (which was either sent in by the GP with the referral letter or brought in by the patient). Ten referrals (45%) only had a written report by a radiologist of unknown standing who did not work in the hospital trust. Seven referrals (32%) had no written report or CD-ROM available at the first outpatient appointment. The 17 patients who did not have a CD-ROM were asked to retrieve their imaging and to come back to the clinic two weeks later. Three of the seventeen patients could not retrieve their imaging and were sent for repeat investigations.

Discussion

Only a small proportion of patients have pre-referral imaging organised in primary care. (Whether the availability of diagnostic services in the community has actually changed referral patterns is beyond the scope of this study). The majority of these were either not available at the first outpatient appointment or simply available in the form of a written report by a radiologist of unknown standing not working in our

hospital trust. As most surgeons base their management on the correlation between the history, examination findings and diagnostic imaging, there was a delay in the initiation of treatment. This is costly to the trust (£180 per outpatient appointment) and inconvenient to the patient. These patients were given two weeks to retrieve their imaging and if they were unable to do this, they had to undergo the same investigation again.

Digital image acquisition, computer-based images and information management are the new prerequisites for the all-digital practice of radiology. The rollout of PACS to link to a national data spine via the IEP means images and reports can be viewed anywhere in the NHS. The IEP is a web-based solution (http://www.image-exchange.co.uk/) that enables the transfer of digital images between NHS organisations and independent health providers. The IEP was procured by the Department of Health with the aim of eliminating the use of CDs for image transfer and to introduce a controlled and secure service for the transfer of diagnostic information to support patient care. It was deployed across the UK in January 2010 and required no specific local hardware or software to be installed on site. Connected trusts were able to use the same workflows to facilitate the transfer of images to any other connected trusts.

The system has been assured as clinically safe by the NHS Connecting for Health clinical safety group and there is a guaranteed level of service regardless of local web and application traffic. This service is being provided at no cost to 120 trusts via Department of Health funding. It enables speedier access to images and reports, and can improve the patient experience owing to the streamlined exchange of diagnostic results. It is also a more efficient use of staff time. It eliminates the use of CD-ROMs, which can be lost or sent to the wrong location. Furthermore, many CDs may have poor image quality and the report cannot be burned onto the CD with the images. Many third party diagnostic imaging service providers are also signed up to the IEP.

Clinicians should ask their PACS manager or musculoskeletal radiologist whether they have access to the IEP. If so, their radiology department will have access to all pre-referral imaging. In our unit we have implemented a system to make sure these images are obtained: when referral letters are triaged by consultants or their clinic clerks/secretaries, any mention of pre-referral imaging in the GP letter automatically triggers a request to PACS for these images. The IEP allows PACS to interface with the third party server to acquire images specific to that particular patient. These images are usually stored for a year on PACS and can be stored longer (eg for comparative purposes) if requested by the clinician. The next step will be to enable clinicians to access the IEP from standard terminals in clinic rooms, bypassing the PACS office. We recommend that a similar system is established in all trusts with access to the IEP.

A major limitation of our small study was its retrospective nature, which meant that our results were only as accurate as the GP referral letters. In some cases the letters were only one line long and did not allude to the fact that the patient may have had pre-referral imaging in the community. It was therefore assumed that the patient had not had any pre-referral imaging, making it possible that some cases were missed. A prospective design may have provided more accurate capture of the necessary data.

Conclusions

Since departments have converted to digital imaging, there are now a number of methods for transferring images between different independent healthcare providers. The IEP allows PACS to interface with most third-party providers of imaging but also has the advantage of networking images with an automated process, with the reduced risk of lost requests and images. Although this system has been established for some time across many trusts in the UK, our study highlights that hospital clinicians still have difficulty accessing pre-referral imaging, which is costly and time consuming. However, this seems to be a problem of awareness of available methods rather than lack of infrastructure. We therefore propose improving awareness of the IEP and its capabilities among clinical staff.

References

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