Original Article

Utilizing Pacs While On Call: A National Survey Of Chief Residents And Directors Of Radiology Programs

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Abstract

The purpose of this study was to ascertain the frequency with which radiologists utilized various diagnostic image viewing platforms while they were on call, as well as to evaluate the views and preferences of chief residents and directors of radiology programs with regard to their use. The Association of University Radiologists electronically distributed an online survey to chief residents and directors of radiology residency programs. The survey was completed by 42 directors of radiology programs and 25 chief residents, resulting in response rates of 24.9 and 8.5%, respectively. Ten distinct Picture Archiving Communications Systems (PACS) were identified from the survey results; the most common were GE (25%) Agfa Impax (15%) and Philips (17%). It's interesting to note that for on-call studies, only 5% of respondents use a secondary "Digital Imaging and Communications in Medicine" viewer. Views

Keywords: PACS, EMR, Radiology Program director, Chief resident.

Introduction

Radiologists in the US interpret diagnostic images using a range of Picture Archiving and Communication Systems (PACS) and Digital Imaging and Communications in Medicine (DICOM) viewers. Our goals in this study are to determine which diagnostic image viewing systems radiologists most frequently use when they are on call, as well as to look into the beliefs that underlie their use. The PACS platform has completely changed how digital images are obtained, stored, and interpreted for diagnostic purposes. The imaging modality (x-ray, CT, MRI, etc.), the radiologist's workstation, and the archiving storage hardware make up a PACS platform's three primary parts (Oosterwijk , 2004).

According to multiple studies, switching from a film-based system to a standardized PACS platform boosts productivity, fosters teamwork, and lowers expenses.This is particularly crucial right now, as the Affordable Care Act (ACA) and the continuous increase in diagnostic imaging are putting more and more pressure on radiologists. In order to meet the growing demand for radiology services, radiology programs have implemented a number of measures. On-call and after- hours radiology reports have increased throughout the United States (Siegel , 2004). Few research have examined the impact of the wide range of PACS platforms and DICOM viewers on on-call responsibilities to date.

That is the question this study aims to answer.

Materials and Methods:

We conducted a survey with chief residents and program directors in radiology to find out how PACS and EMR are set up for on-call shifts at teaching hospitals and to get their opinions on how these systems are used. Four primary topics were covered in the survey: PACS and secondary DICOM viewers; worklist and turnaround time; PACS and EMR; and PACS opinions and preferences. Any DICOM viewer used by the radiologist that is not the primary viewer and is supported by their institution's PACS is referred to as a secondary DICOM viewer.

PACS :

Program directors and chief residents concur that integrating the PACS into the EMR would enable remote access to imaging studies performed while on call. Through easier access to real-time updates and clinical correlates to diagnostic studies, PACS and EMR integration may enhance patient care. This theory is further supported by a study that discovered that the integration of PACS and EMR increases the precision and effectiveness of patient management in a healthcare system (Macyszyn , 2013).

EPIC :

By far the most widely used EMR (49%) was EPIC. There are still a wide range of different systems in use, much like the various PACS vendors included in this study. Nonetheless, the EPIC platform more accurately depicts the most widely used EMR used by the hospitals included in this analysis. Additionally, almost every study participant mentioned that their organization uses electronic

medical records. Comparatively, a 2009 study that polled 63% of US hospitals discovered that just 9% of them were using an EMR (Mansoori, 2012).

Radiologists :

Radiologists participating in this study prefer a single unified PACS in a healthcare institution and agree that EMR integration with remote access is important. Radiologists in teaching hospitals universally prefer to use their home institution's PACS for on-call studies over other secondary DICOM viewers. But according to our research, only 41% of hospital systems surveyed currently use a PACS platform that isn't connected with an EMR (Joshi , 2011).

Recommendations:

Future surveys are required due to the small sample size in order to precisely identify the primary causes of the low levels of satisfaction with PACS used during on-call shifts. Although many are content with their PACS, some are not pleased with how user-friendly their institution's PACS .

According to the findings, some program directors believe their PACS platform significantly affects their productivity and shortens turnaround times, while others hold the opinion that their PACS platform has no bearing whatsoever on productivity. Lastly, when it came to the PACS's ease of use for on-call studies, program directors and chief residents had opinions that ranged from neutral to positive, with the former group being more optimistic

Conclusion:

A survey was conducted to find out how program directors and chief residents in radiology currently use PACS and DICOM viewers when they are on call, as well as what they think about the PACS at their institution. The findings demonstrate the wide range of PACS platforms utilized by the teaching hospitals included in this research, with GE, Phillips, and Agfa being some of the most widely used. There is not enough data to conclude that the performance of radiologists on call is affected by a particular PACS platform in comparison to other PACS platforms. Most respondents said they would rather use the PACS at their institution than a different DICOM viewer. Lastly, program directors and chief residents think that an institution should view on-call studies through a single, unified PACS that is integrate

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