Chapter VIII
Quality Control, Quality Assurance, and Business Continuity Plan in PACS

INTRODUCTION

As PACS gains widespread use, the importance of Quality Control (QC), Quality Assurance (QA), and Business Continuity Plan (BCP) in PACS is rising. The purpose of QC/QA is to measure the quality and performance of a PACS for minimizing the chance of getting any avoidable risk. However, in the real world, there is still some risk in any complicated system. Therefore, BCP is used to reduce the impact and downtime of hospital PACS system operation due to changes or failures in the company operation procedure. The purpose of BCP is to make sure that the critical part of PACS system operation is not affected by critical failure or disaster.

PACS BUSINESS

PACS has become an essential element in a filmless hospital (Bryan, Weatherburn, Watkins, Buxton, 1999). Before the planning for QA and BCP, the business model of PACS in a hospital can be presented as follow in Figure 1.

In the business model, the key assets include film scanners, digital imaging modalities (CT, MR, CR, DR, US, etc.), image viewing workstations, database
server, image storage, archive server, PACS broker, film printer, and web server. All the above equipments are utilized for providing a radiology image viewing service for the clinical departments in the hospital under a service level agreement. The agreement usually includes the storage period for the images, the quality of the images in the archive, the speed of the image retrieval, the level of customer service, and contingency of the service. The radiology image viewing service may include image viewing in ward area, holding filmless conferences, radiology image reporting, image viewing in out patient clinics, supporting of image distribution network for referring physicians and surgeons, film printing on demand for patients and referring physicians.

QUALITY CONTROL IN PACS

Quality Control (QC) is a system of routine technical activities used to measure and control the quality of the inventory as it is being developed. There are two types of quality control activities: QC in operational procedures and QC in emergency procedures.

Quality Control in Operational Procedures

Data Transfer Verification

In radiology department, hundreds of radiology procedures are performed daily. It is the responsibility of radiographers or technologists for checking each study
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