

South Wales East Regional Committee

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Venue: Oasis Christian Community Centre, Cefn Forest, Blackwood

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The Role of Imaging in Cancer:

There is a recognised role for imaging in the management of patients with cancer and imaging maybe required throughout the patient pathway.

- Staging of disease distribution at initial diagnosis.
- Monitoring of the response to treatment, local and systemic.
- Follow up of residual abnormalities and disease in remission.
- Diagnosis of the complications of therapy.

The choice of imaging modality will be determined by the primary disease, position in the pathway and whether it is local or systemic disease that is being sought.

As an example, staging, the process that determines how far a cancer has spread at the time of initial diagnosis is used to gain information, which maybe utilised for:

- Determination of the optimal neoadjuvant, adjuvant and primary therapies.
- Providing guidance on an individual patients prognosis.
- As a measure of therapeutic success.
- To enable a common language between healthcare communities.

Nevertheless, there are limitations to the accuracy of the imaging modalities available to us in terms of sensitivity and specificity. For example there is a difference between the detection and the characterisation of a mass lesion within the liver. In this situation, many maybe too small to characterise by their appearances alone and larger lesions, may have imaging characteristics that do not allow them to be definitively determined as benign or malignant. As a general rule we should remember that imaging findings are not absolute. All those involved in the management of patients with cancer need to recognise and understand these limitations and their consequences.

A mechanism for managing such indeterminate abnormalities, where subsequent certainty would impact

patient management is important and is one of the principal tasks of the Multidisciplinary Teams [MDT's]. In such a team approach there are opportunities for agreeing and documenting a management plan for resolving these uncertainties.

Staging is ideally achieved by utilising agreed imaging protocols, for both imaging modality and acquisition parameters, across healthcare communities. Where possible a single test is utilised but often a combination of two or more maybe required.

The Role of the Multidisciplinary Team

Here, in a team approach, all aspects of the patients care can be considered and individual contributions to the patients diagnosis from the Directorates Radiology; Haematology; Biochemistry and Pathology] can be combined, rather than being viewed in isolation.

In addition to their role in the management of individual patients they fulfil an important role in providing a framework and process for professional interaction and debate. They are key to the ongoing training and education of all the professions that are involved in them as well as being the foundation for audit, governance and research activities.

The Role of Information Technology

Information technology plays many recognised and indeed unrecognised roles in the diagnostic imaging contribution to the patient pathway. It facilitates the 'end to end' process of the imaging value stream and maximises the value added benefit of imaging to patients with cancer.

For example:

- It can allow all previous imaging investigations and their reports to be assessed and reviewed prior to performing the current examination. Thus ensuring the correct examination is performed and avoiding the need for unnecessary examinations and patients having to be recalled.
- Examinations can be reviewed before the patient has left the department so as to ensure its technical acceptability and to allow decisions regarding any further imaging to be made.
- In the reporting process, it should be possible to directly compare previous examinations with the current one. Judgements can then be made on any qualitative and quantitative changes in previous disease or indeterminate abnormalities and new abnormalities are more easily recognised.
- It enables the review of all previous and the current imaging at Multidisciplinary Team meetings. This important to inform discussion and allow the correct decisions to be made as well as to resolve indeterminate findings and any discrepancies between radiological and clinical findings.

Q1. How Can Information Technology be Used More Effectively to Track and Facilitate the Patients Journey.

Response

There is a compelling need for those involved in the generation of imaging and those requesting it and using it to manage patient treatment decisions to have access to images; reports and appointment information. It is important that this be the case within the organisation and across organisational boundaries with access and availability being transparent and patient centered.

Currently, there are a variety of disparate and fragmented systems and associated processes that exist locally within Trusts and between Trusts in Wales. Any new system, would be used by all healthcare communities across Wales that generate and/or require access to images, reports, schedules, management information and other data regarding diagnostic imaging. It would encompass, acute hospitals, primary care, community care and mental health services. In addition, such a system could accommodate image data generated as part of community based imaging services.

The context for this change is Designed for Life and the role described for imaging in a patient centric service health service delivering high quality care within integrated care pathways that are evidence based.

There are a number of clear business needs for an improved and integrated All Wales, Picture Archiving and Communications Systems [PACS] and Radiology Information Systems [RIS].

Sharing Imaging Information

All imaging information needs to be integrated and available to all appropriate users, so as to support clinical decision making and benefit the patient experience.

- Requests for imaging should be moved from paper based systems to electronic requesting.
- Common request forms and data definitions will be necessary so as to integrate data from differing healthcare organisations.
- Appropriateness of requests will be improved and knowledge of previous or waiting requests will facilitate demand management and avoid unnecessary repeat imaging.
- Business management information would be available to Radiology Directorates and to support clinical and organisational decision making on a local, regional and national basis.

Resource Management

It is crucial that such a system allows the cross organisational support of clinical decision makers and clinical networks. As an example, a patient seen in a community environment may have their CT scan booked remotely in an acute hospital.

As part of these processes there is a need to:

- Schedule the patients' appointment, room time and staff and additional resources.
- Allow the active management of waiting lists.
- Facilitate 'day to day' logistics in terms of imaging activities.
- Improve the workflow of the reporting and transcription component of the imaging value stream.

Interpretation of Images

Imaging Directorates in Wales are subject to demographic and geographical factors and in some cases skill shortages that have a negative impact on the timely provision of imaging to patients.

Service availability and specialist services would be positively impacted by the ability to allow remote reporting from and to, all organisations both hospital and community based, providing imaging services in Wales.

For this to be realised:

- The imaging and clinical information must be consistent in its acquisition and presentation.
- A unique patient identifies, examination codes and protocols will have to be common across the system.

Business management Information

The majority of Radiology Directorates in Wales lack the business management information systems to allow effective management of the resources for which they are responsible.

- To allow demand, activity and capacity planning on a short [day] and long term basis.
- No standard set of performance measures has been determined or implemented.
- Performance management cannot be effectively implemented.

Information is not available to the strategic planners centrally i.e. those involved in manpower planning and long term horizon scanning.