Value based X-ray physics - a novel organizational model for Medical Physicists working in diagnostic and interventional radiology

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Background

- A new healthcare reform centered around Value-based healthcare has recently been implemented in our region
- To pursue this reform, drastic changes have been made to our hospital's organizational structure and our hospital will serve as a tertiary and quaternary healthcare provider
- The previous organization of the unit of X-ray Physics was not appropriately designed to the new emerging value-based healthcare organization of our hospital, risking an unsatisfactory integration between Medical Physicists and the clinical practices

Purpose

- To create a new organization for the unit of X-ray Physics to allow highly specialized and clinically relevant Medical Physics support

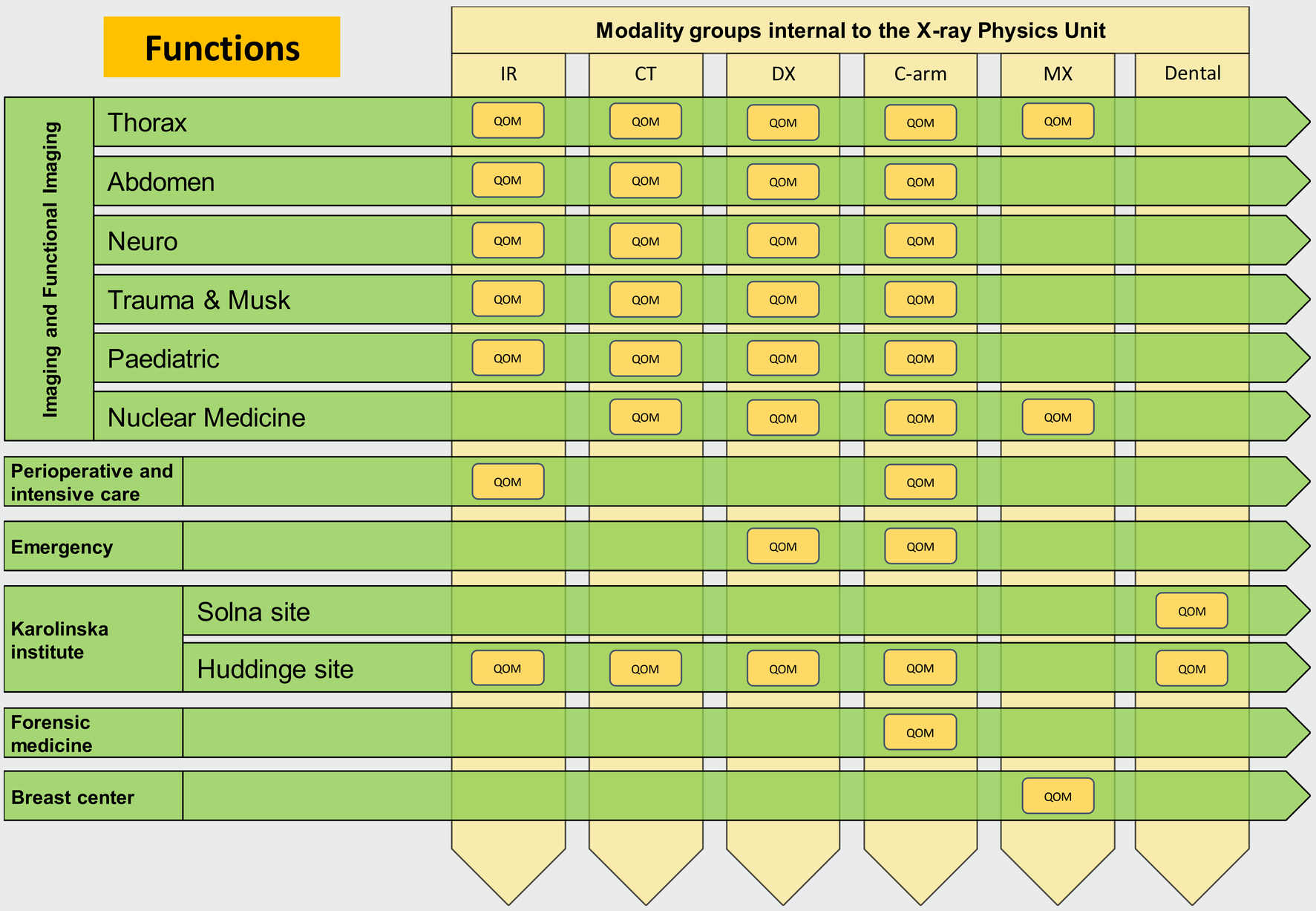
Methods

- The new matrix organization of our facility was mapped out in order to identify all clinical sub-specialties and their extent. A stakeholder analysis was conducted, and is continually revised, in order to identify the staff occupying key roles in the organization
- To better understand the clinical demand for Medical Physics support, interviews were conducted with Lead Section Radiologists. Questions focused on the ideal use of Medical Physics resources, how Medical Physicists should best interact with the practices and how Medical Physics could be organized to provide relevant support
- The internal organizational structure of the X-ray Physics unit was examined and discussed in workshops

New organizational model

Figure 1. QOM groups are established at each intersection between clinical sub-specialization and imaging modality. Pediatric CT and Neuro IR are examples of QOM groups. A QOM-group therefore requires specific and highly specialized expertise from a team of Lead Radiologists, Lead Radiographers and Medical Physicists.

QOM-groups can be combined and share resources when needed. Ideally, Medical Physicists participate within a limited number of QOM-groups within a single modality branch, but may alternatively engage within a single clinical sub-specialization instead.



Results

- Quality-Optimization-Methodology (QOM) groups have been developed to best support clinical needs in the hospital's new organization
- The QOM groups are multidisciplinary (consisting of Lead Radiologists, Lead Radiographers and Medical Physicists) and are placed in the intersection of an imaging modality and a clinical sub-specialization to best interface with our hospital's new structure

Conclusion

- The QOM group based operational model enables members of the unit of X-ray Physics to become highly specialized in one or more combinations of modality and clinical sub-specialization
- Furthermore, the new QOM group based operational model provides a management tool to understand how to best allocate Medical Physics resources in the clinic. The model is currently undergoing evaluation and an optimization process to support the QOM groups is currently under development

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