

QUALITY ASSURANCE PROGRAMMES IN RADIOLOGY AND RADIOTHERAPY

(CZR/6/002) E3 New

MODEL PROJECT

CORE FINANCING

YEAR	Experts		Group Activity	Equipment	Fellowships		Scientific Visits		Group Training	Sub-Contracts	Misc. Comp.	TOTAL
	m/d	US \$	US \$	US \$	m/d	US \$	m/d	US \$	US \$	US \$	US \$	US \$
1997	0/14	6,160	0	49,300	3/0	9,450	0/7	2,240	0	0	0	67,150
1998	0/7	3,255	0	52,000	3/0	9,900	0/0	0	0	0	0	65,155

First Year Approved: 1997

OBJECTIVES: To establish a National Reference Centre for radiology and radiotherapy quality assurance (QA) audit; to complete the QA audit kit for on-site visit measurements and for tests at radiodiagnostic and radiotherapeutic workplaces; and to assist in the development of guidelines for QA audit in radiology and radiotherapy.

BACKGROUND: All activities concerned with ionizing radiation in the Czech Republic are licensed, registered, notified, authorized and inspected by the State Office for Nuclear Safety (SONS). The National Radiation Protection Institute (NRPI), affiliated to SONS, was established in 1995 and is responsible for the implementation of the new regulations. In order to enact these new legislations in the field of radiation protection it is necessary to install and maintain a National Reference Centre for regular quality assurance (QA) audit in radiology and radiotherapy at the NRPI. Under two grants from the Ministry of Health and an Agency Co-ordinated Research Project, patient doses during radiological examinations were surveyed and estimated. It became evident that there is a need for QA in radiology in order to reduce patient doses. QA in radiotherapy was supported by Ministry of Health grants between 1990 and 1995. Four recommendations for quality control (QC) of radiotherapy equipment were published and three more are in preparation. The Ministry of Health is supporting QA audit in radiotherapy and is preparing a survey of QC techniques, equipment and procedures, as well as dosimetry kits for external on-site audits in radiotherapeutic departments, to be performed by medical (hospital) physicists for the Czech Society of Radiation Oncology and Physics. Between 1994 and 1995, 20 out of 32 radiotherapeutic centres took part in a thermoluminescence dosimetry audit, and in 7 out of 20 centres dose deviations were as high as 6%. The situation in the other centres was even worse. These results served as a warning of the need for a National Reference Centre for radiology and radiotherapy QA audit to ensure uniformity and constancy of QC measurements. Co-ordination and control of the QA implementation on the national level and co-ordination with international activities are also needed in order to avoid unnecessary radiation exposure and to ensure patient safety within the range achievable by good clinical practice and optimized equipment function. QA and audit are important tools for detecting malpractice in radiology and radiotherapy and can assist in lowering and/or improving the image in diagnostic radiology and delivering proper doses/dose distributions to cancer patients.

NATIONAL COMMITMENT: Staff and facilities of the NRPI.

AGENCY INPUT: Expert services, equipment and training.

PROJECT IMPACT: Through the implementation of QA measures, improved radiology examinations and radiotherapy treatment will be achieved. Greater accuracy of the dose delivered to patients will contribute to an increased cure rate and better quality of life by means of simple, accurate, widely applicable and cost-effective procedures.