IAEA-CN-310/224

Regulatory Requirements and Economic Feasibility for Developing a Mobile SPECT/CT Unit with Radiopharmacy Facilities

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Brazil has been facing great challenges related to the public health care system, not being able to manage the high national demand for diagnostic imaging tests, therefore avoiding the possibility of an early diagnosis for oncological and cardiovascular diseases. An important medical specialty for providing an early and accurate diagnosis is Nuclear Medicine. Early diagnosis is crucial for health professionals to make decisions that enable more effective treatments and improve the chances of cure.

Due to the irreversible damages caused to patient's health resulting of delay in diagnosis, this research project carried out at Nuclear and Energy Research Institute (IPEN/CNEN), together private companies and associated institutions, focus on regulatory requirements and economic feasibility for developing a mobile unit with hybrid Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT) equipment and radiopharmaceuticals facilities for radiolabeling reagents kits with technetium-99m.

A mobile SPECT/CT unit with adequate radiopharmacy facilities will be an excellent innovative solution to support Brazilian public hospitals to address the demand for diagnostic imaging tests. This mobile unit could provide health care in isolated areas or even big cities where there are shortage of health resources and high mortality rate for cancer and heart disease.