Future Supply Options of $^{99}$Mo, $^{99m}$Tc

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ABSTRACT

Global efforts to decrease nuclear proliferation, shifts to full cost recovery, and impending end-of-service of key nuclear reactors are changing production methods, distribution, availability and cost of $^{99m}$Tc. General Electric has commercial interests across nuclear medical diagnostics, spanning: nuclear cameras, $^{99}$Mo generators, U.S. radio-pharmacies, isotope generation and medical tracers. Combined with infrastructure units (Corporate Global Research, PET Cyclotrons, Nuclear, etc), GE has an opportunity to look across all elements of the developing landscape of $^{99}$Mo and subsequent $^{99m}$Tc production. The future of $^{99m}$Tc will most probably evolve to a combination of distribution and local production; built on advancements from academia, national labs, and private industry. A review of the landscape and a potential future supply model will be presented. Technology, regulatory, and distribution advancements will enable secure and affordable patient access to this critical medical diagnostic capability.