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Meeting / Value in Health Info:	ISPOR 19th Annual International Meeting Palais des Congreés de Montreal May, 2014
Code:	PCN188
Disease:	Cancer
Topic:	Health Care Use & Policy Studies (HP)
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Title:	AN ONLINE PATIENT-ORIENTED RADIATION RISK ASSESSMENT TOOL TO PROJECT CANCER RISK FOLLOWING EXPOSURE TO LOW IONIZING RADIATION IN CANADA
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Pdf File:	 View presentation
Content:	<p>OBJECTIVES: Increasing use of imaging procedures has raised concerns about the risk of cancer due to repeated exposure to low-ionizing radiation. We developed an online radiation risk assessment tool to project the lifetime attributable risk (LAR) of cancer incidence following repeated exposure to imaging procedures. METHODS: We developed a risk projection model to assess radiation exposure from imaging procedures, to estimate the lifetime attributable risk (LAR) of cancer incidence and 95% uncertainty limits (UL), according to age, gender, and imaging type. We used the "linear no-threshold" models (extrapolation of risk associated with high-dose ionizing radiation to low-dose exposure). The model has been adjusted using Canadian data to reflect the Canadian population. RESULTS: Selected simulation results are presented. The LAR of cancer incidence for a 50 and 70 year old male, exposed to a single coronary angiogram is 11 (95% UL: 6-22) and 6 (3-12) per 10,000 exposed, respectively. As the number of coronary angiograms increased from one to five over time, the cancer risk increased to 54 (27-106) and 26 (14-52) per 10,000, respectively. As age increases the excess lifetime risk of cancer decreases. The excess lifetime risk of cancer is higher for females than for males. The LAR of cancer for a 70 year old male and female, exposed to a computed tomography (CT) for suspected stroke is 4 (2-8) and 5 (3-10) per 10,000, respectively. As the number of CT scans increased from one to five, the total risk of cancer increased to 17 (8-33) and 23 (12-43) per 10,000, respectively. CONCLUSIONS: Patients are rarely aware of radiation risk. Physicians often underestimate the magnitude of radiation doses arising from imaging procedures. An online, interactive model might facilitate the decision making process, leading to more informed decisions and improved clinical outcomes.</p>

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