LYS and $271.3 million (8) due to cervical cancer alone over the next 20 years. Based on a realistic linear investment model, RT yields an additional 9.8M LYS (2.9M in LIC, 4.7M in LMIC, and 2.2M in UMIC) over 20 years, a $53.2B net increase in economic productivity ($2.6B in LIC, $16.4B in LMIC, and $34.2B in UMIC), and a broader societal net gain of $137.5B ($10.3B in LIC, $44.8B in LMIC, and $82.4B in UMIC). The additional investment necessary for HDR brachytherapy, an essential component of curative treatment, was only 5.5% greater than EBRT alone.

Conclusions: The failure to ensure global availability of EBRT and BT to treat cervical cancer would result in enormous human and economic consequences over the next two decades. This loss would occur before the benefits of primary cancer prevention strategies, such as HPV vaccination, are realized. The present study demonstrates that a realistic investment strategy over the next 20 years may yield a net economic benefit of up to $150B USD, and potentially further benefits beyond that point in time. These findings support the value of scaling-up of EBRT and BT to treat cervical cancer and help to justify their inclusion in national cancer control planning.

12 UTILIZATION OF EMERGENCY DEPARTMENTS AMONG PATIENTS WITH CANCER

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Purpose: To compare emergency department (ED) use between patients with cancer and a matched cancer-free cohort of individuals and to examine the association between ED use and time to death.

Methods and Materials: Data were from the Manitoba Centre for Health Policy Data Repository and included cancer registry, hospital discharge abstracts, physician billing claims, ED visits, and vital statistics. The cancer cohort included adults (age 18+) with selected cancer diagnoses (breast, colorectal, lung and prostate) made between 2007 and 2011. Rates of ED utilization were compared during three time periods (pre-, peri-, and post-diagnosis) using generalized estimating equations between cancer patients and cancer-free individuals matched 1:1 on age, sex, and Charlson comorbidity score. The association between ED use and time to death was tested using a multivariable Cox proportional hazards regression model.

Results: A total of 5569 patients with breast (n = 1555), colorectal (n = 1327), lung (n = 1437), and prostate (n = 1250) cancer were included. When comparing ED utilization between cancer cases by site and their matches only lung cancer showed a significant increase during the pre-diagnosis period (relative rate [RR] 1.38 [95% confidence interval 1.18-1.62], p < 0.0001). ED utilization was increased during the peri-diagnosis period for breast (RR 1.74 [1.31-2.32], p < 0.0001), colorectal (RR 2.44 [1.72-3.45], p < 0.0001), lung (RR 4.51 [3.61-5.63], p < 0.0001), and prostate (RR 3.10 [2.14-4.47], p < 0.0001) cancer. In the post-diagnosis period, ED utilization was increased for breast (RR 1.45 [1.26-1.67], p < 0.0001), colorectal (RR 1.40 [1.11-1.76], p = 0.0055), and lung (RR 2.28 [1.94-2.67], p < 0.0001) cancer. ED use increased up to two years after diagnosis and was associated with time to death for prostate cancer (hazard ratio [HR] 1.12 [95% CI 1.02-1.24], p < 0.02) while ED use in the post-diagnosis period was associated with time to death for breast (HR 1.27 [1.18-1.37], p < 0.0001), colorectal (HR 1.11 [1.04-1.18], p = 0.0012), and lung (HR 1.10 [1.06-1.14], p < 0.0001) cancer.

Conclusions: The pattern of ED utilization varies with cancer site and time from diagnosis. All cancer sites were associated with increased ED use around the time of diagnosis, while patients with breast, colorectal, and lung cancers also showed increased ED use in the post-diagnosis period. Additional cancer-related urgent care services during the peri- and post-diagnosis periods may alleviate the frequency of ED visits among patients with cancer.