

Study reveals high healthcare costs linked with acute kidney injury

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Acute kidney injury (AKI), an abrupt or rapid decline in kidney function, is a serious and increasingly common condition that can occur after major infections, major surgery, or exposure to certain medications. A new study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)* reveals the

extensive healthcare costs that result from AKI and highlights the need for improved strategies to identify and prevent the condition.

When patients are hospitalized, they may develop AKI for a variety of reasons, with significant negative clinical consequences. To assess the [healthcare costs](#) of AKI (by degrees of severity), a team led by Scott Klarenbach, MD, MSc and David Collister, MD (University of Alberta, in Canada) studied information on adults hospitalized in Alberta between November 2002 and March 2009.

Of 239,906 hospitalized patients, 25,495 (11%), 4598 (2%), 2493 (1%) and 670 (0.3%) developed AKI stages 1, 2, 3 without dialysis, and 3 with dialysis, respectively. The mildest forms of AKI resulted in adjusted [costs](#) that were 1.2 to 1.3 times greater than those for patients without AKI. More severe AKI was associated with costs that were 1.8 to 2.5 times greater. Even patients who recovered from AKI had greater costs over the year after their recovery compared with patients who did not develop AKI. The incremental cost of AKI in Canada was estimated to be more than \$200 million (Canadian dollars) per year.

While the incremental cost per patient was much greater for those with more severe AKI, the less severe forms of AKI resulted in greater overall costs from a population perspective. Over the time frame of admission to the hospital through a recovery period of 90 days after AKI-assessment, patients with stage 1 AKI had incremental costs of approximately CAN \$3800 per patient, while patients requiring dialysis had costs of CAN \$18,300; however, there were many more patients with stage 1 than stage 3 AKI. As such, the impact on [healthcare](#) resource utilization is far greater for the large number of [patients](#) with less severe forms of AKI.

"There is ongoing interest and research into strategies that prevent or reduce the severity of [kidney injury](#), and knowledge of the healthcare

costs of kidney injury is useful for both healthcare planning as well as to determine a cost-effective level of investment on preventative strategies," said Dr. Klarenbach.

More information: "Health Care Costs Associated with Acute Kidney Injury," *Clinical Journal of the American Society of Nephrology* (2017). DOI: [10.2215/CJN.00950117](https://doi.org/10.2215/CJN.00950117)

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