

Defining Acute Kidney Injury Episodes

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Background

Acute Kidney Injury (AKI) is a common, serious condition affecting up to 20% of all hospital admissions in the UK. AKI has an agreed definition for its recognition, however there is no consensus for the duration of an AKI episode.

that a patient experiences. Once described, this cohort can be used to define a gold standard for AKI in future analysis.

Main Aim

To describe four different potential definitions of an AKI episode.

Method

We identified AKI using an SQL (Structured Query Language) based algorithm (an implementation of the NHS England eAlert algorithm) applied to serum creatinine (SCr) results from a South Wales population of 518,000 people, held in the Secure Anonymised Information Linkage (SAIL) Databank. Using a person's index AKI case, we applied four different rules to define an episode of AKI. These definitions are: ALERTS - until they no longer trigger an AKI eAlert, 90 DAYS - until 90 days post first AKI test and $<1.2/<1.5$ until the SCr recovers to <1.2 or 1.5 times their baseline creatinine.

Results

There were 1,832,122 SCr tests in 340,908 people between 2011-2013, of which 93,843 were alerts (5.12%). This fell to 81,948 alerts in 21,979 patients when dialysis and transplant patients were excluded. Of these patients with AKI 7,792 (35.5%) were dead at 1 year after their first episode. There were 31,505, 33,759, 26,657, 34,904 episodes in patients by <1.2 , <1.5 , 90 Days and ALERTS definitions respectively.

Conclusion

AKI episodes can be created in SAIL using SQL, and by adjusting the definition we see a variation in the number of episodes

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