



# UK RENAL REGISTRY

## SUMMARY OF ACUTE KIDNEY INJURY (AKI) REPORT

Analyses of data to the end of 2022



UK Kidney Association  
UK Renal Registry

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# INTRODUCTION

Acute kidney injury (AKI) describes a sudden fall in kidney function, which may last for hours or days. It frequently occurs as a complication of an acute illness such as sepsis or heart attack, and may develop in hospitals or in the community, for example, in nursing homes. AKI is defined by stages, ranging from the least severe (stage 1) to the most severe AKI (stage 3).



**Sue Lyon**  
Chair, UKKA Patient Council

The first England-wide AKI report from the UK Renal Registry (UKRR)—which was compiled in response to National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report, *Acute kidney injury: adding insult to injury*<sup>1</sup>—was published in 2020 and used 2018 data<sup>2</sup>. This summary report highlights the main findings of the follow-up report on AKI from the UKRR, which uses data on people recorded with an AKI warning test score during 2022.

The good news is that, compared to 2020 when 87% of laboratories submitted data that could be included in the analysis, nearly all (98%) laboratories in England now send some data to the UKRR. This allows the UKRR to be much more confident in the population rate of AKI, with fewer assumptions and adjustments necessary to estimate the population covered.

Unfortunately, the latest AKI report reveals that neither the overall rate of AKI nor the rate of AKI-associated deaths has changed since 2018. There also continue to be substantial differences in the rates of AKI across geographic areas, even when taking into account the age and sex of the people in the different areas.

AKI continues to complicate an important proportion of admissions to hospital. It is associated with a significant risk of death among hospitalised patients and incurs high costs for healthcare systems. Improving the prevention, detection, treatment, and follow-up of AKI rightly remains a national priority, supported by resources available on the Think Kidneys ([thinkkidneys.nhs.uk](https://thinkkidneys.nhs.uk)) website.

<sup>1</sup> <https://www.ncepod.org.uk/2009aki.html>

<sup>2</sup> <https://ukkidney.org/resource/aki-report-2020>

# ACUTE KIDNEY INJURY

Acute kidney injury (AKI) is defined as a **sudden decrease** in kidney function.

It has a number of **different causes**.

AKI can be grouped into **3 stages**, with stage 3 being the most severe.

This is a summary of the UKKA's [report on the nationwide collection of AKI warning test scores from 2022](#).



This summary is designed to:

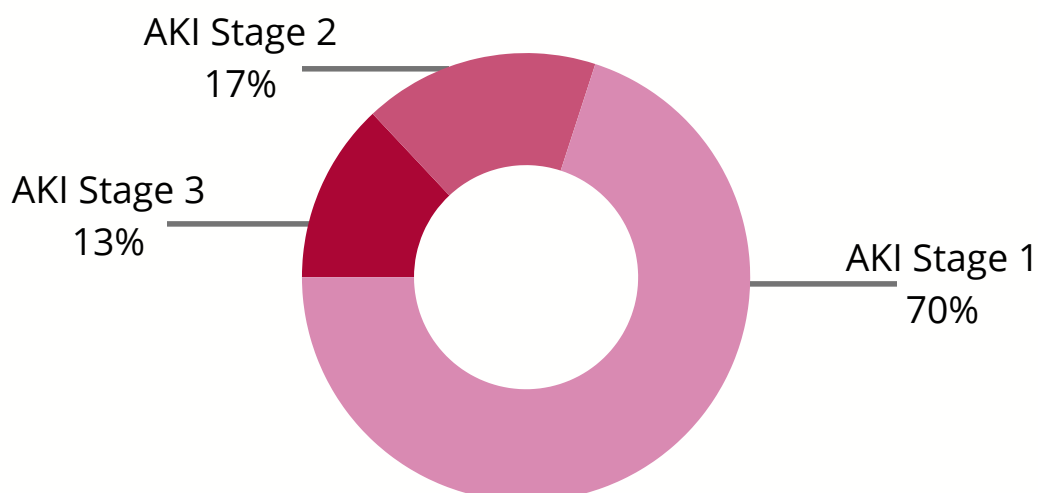
1. Demonstrate the **impact** of AKI on the **English population** in 2022.
2. Show the different **characteristics and outcomes** of people with AKI, comparing people who develop AKI in the community with those who develop it in hospital.

## Characteristics of people with AKI in 2022



- **98% of people** with AKI were **aged over 16**.
- The **average age** of people with AKI was **73.9 years**.
- **Males and females** were almost **equally likely** to develop AKI (48.1% male / 51.9% female).
- There were **more people** with AKI in the **most deprived areas** (23%) than the least deprived (17%).

## AKI by peak stage



**70% of people** had an AKI that did not progress past Stage 1

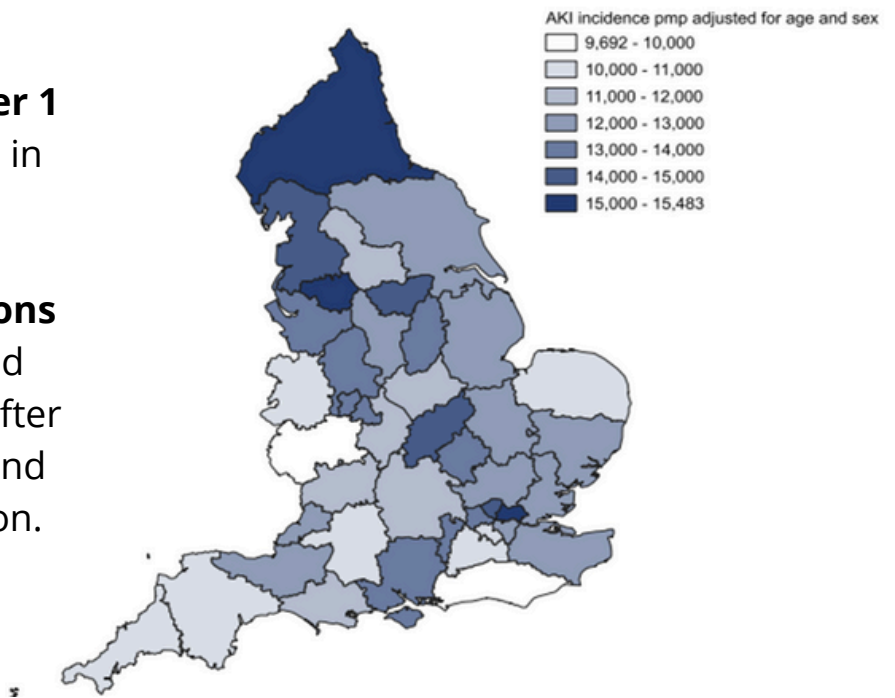


# Rate of AKI episodes per million population for England in 2022, by Integrated Care Board\*

\*Integrated Care Boards are NHS organisations responsible for planning health services for their local population

Across all of England, **just over 1 in 100** people developed AKI in 2022.

**Different geographical regions** (Integrated Care Boards) had **different rates of AKI** even after taking into account the age and sex of the people in the region.



## Community acquired versus hospital acquired AKI

More than **half a million people** experienced one or more **AKI episodes in 2022**.

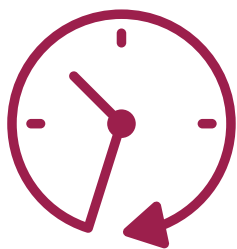
The **majority** of individuals developed their AKI in the **community** (68.6%), which means the AKI occurred in a setting outside the hospital, such as a person's home or in long-term care. This includes people whose AKI was diagnosed within 48 hours of admission to hospital.

The remaining AKI episodes happened in hospital (31.4%).

**68.6%**  
developed  
AKI in the  
community

# OUTCOMES OF AKI

## Length of stay in hospital



Where people with AKI were in hospital (for any reason), those who had an **emergency admission** stayed in hospital longer (**13 days**) than those who had a **planned admission (10 days)**.

People who developed **AKI in the community** had a **shorter hospital stay** than people who developed AKI in hospital.

## Risk of death

Risk of death within 30 days of an AKI episode **increased with AKI stage** – 13% for stage 1, and 35% for stage 3.

There were **more deaths in people who developed their AKI in hospital**, and also more deaths in the winter months in people with AKI.

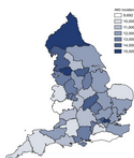


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## CONCLUSIONS



Neither the overall rate of AKI nor the mortality rate have changed since 2018.



There continue to be substantial **differences** in the rates of AKI **across geographical areas**, even when taking into account the age and sex of the people in the area.



AKI continues to be associated with a **significant number of deaths**, and the rates of AKI-associated deaths vary between hospitals and regions.



UK Kidney Association  
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For more information about this report,  
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[www.ukkidney.org](http://www.ukkidney.org)



[@UKKidney](https://twitter.com/UKKidney)

Kidney Patient Reported Experience Measure (PREM) reports  
are available from:

[ukkidney.org/kidney-patient-reported-experience-measure](http://ukkidney.org/kidney-patient-reported-experience-measure)

The UK Renal Registry Data Portals, with information on the  
Annual Report, are available from:

[ukkidney.org/audit-research/data-portals](http://ukkidney.org/audit-research/data-portals)

[ukkidney.org](http://ukkidney.org)