The study population (N = 997) had a median age of 71 years (IQR, 60–82). Within this group, 46.5% were female and 53.5% male. Among patients, 6.8% were admitted from a nursing home, while 7.8% were discharged to a nursing home. Regarding levels of care, 17.0% received intermediate care, and 5.6% required intensive care. The median length of stay was 3 days (IQR, 2–6).

In the explicit *ICD-10* sepsis subgroup (n = 315), the median age was slightly higher at 75 years (IQR, 64–86). This group comprised 39.6% females and 60.3% males. A total of 9.5% were admitted from a nursing home, 9.6% were discharged to a nursing home, 23.8% required intermediate care, and 20.9% needed intensive care. The median length of stay was 9 days (IQR, 4–15).

In the Sepsis-3 subgroup (n = 457), the median age was 76 years (IQR, 67–85), with 50.8% females and 49.2% males. Admissions from nursing homes occurred in 13.6% of cases, and 14.0% were discharged to nursing homes. Intermediate care was required in 27.7% of patients, while 15.6% required intensive care. The median length of stay was 6 days (IQR, 2–11).

Comorbidities varied across groups. In the sample population, the most frequent comorbidities included myocardial infarction (10.2%), mild diabetes (11.6%), cerebrovascular accident (11.2%), dementia (6.6%), solid tumors (11.8%), and chronic obstructive pulmonary disease (8.0%). Severe diabetes (0.6%) and severe liver disease (0.2%) were rare. Notably, 51.8% of the sample population had no comorbidities.

Within the *ICD-10* subgroup, myocardial infarction (11.6%), congestive heart failure (13.8%), mild diabetes (23.5%), cerebrovascular accident (20.9%), and solid tumors (16.9%) were common. In contrast, 25.3% had no comorbidities.

In the Sepsis-3 subgroup, myocardial infarction (19.2%), congestive heart failure (17.1%), mild diabetes (25.1%), cerebrovascular accident (20.3%), dementia (9.7%), solid tumors (14.0%), and metastasis (10.5%) were frequent. Only 21.8% of patients in this subgroup had no comorbidities.

The incidence of sepsis varied according to the definition used. Based on the Sepsis-3 reference standard, the cumulative incidence was 4.1% (95% CI, 3.6–4.5), corresponding to an annualized incidence rate of 747 cases per 100,000 person-years (95% CI, 663–832). In contrast, R-code sepsis had a much lower cumulative incidence of 0.2% (95% CI, 0.2–0.2) and an incidence rate of 46 cases per 100,000 person-years (95% CI, 32–58).

For explicit sepsis, which includes both A- and R-sepsis, the cumulative incidence was 1.0% (95% CI, 1.0–1.1), with an annualized incidence rate of 287 cases per 100,000 person-years (95% CI, 241–335). When implicit sepsis definitions were applied (including explicit sepsis), the cumulative incidence was 1.4% (95% CI, 1.4–1.5), and the incidence rate increased to 401 cases per 100,000 person-years (95% CI, 362–440).

A t 30 days, the all-cause case fatality rate was 15.5% (95% CI, 11.4–20.7) in the Sepsis-3 cohort (n = 457). In contrast, patients identified with R-code sepsis (n = 223) exhibited a substantially higher 30-day case fatality rate of 29.1% (95% CI, 23.5–35.5). The explicit sepsis subgroup (n = 315), which includes both A- and R-code sepsis, had a 30-day fatality rate of 18.9% (95% CI, 12.9–26.7). Among patients with implicit sepsis, including explicit sepsis (n = 546), the 30-day case fatality rate was 17.0% (95% CI, 12.2–21.8).

At 90 days, the Sepsis-3 cohort demonstrated a case fatality rate of 20.1% (95% CI, 15.2–26.0). The R-code sepsis subgroup again showed the highest 90-day mortality at 33.2% (95% CI, 27.3–39.7). In comparison, explicit sepsis cases had a 90-day case fatality rate of 23.2% (95% CI, 16.5–31.4), while implicit sepsis, including explicit sepsis, showed a 90-day rate of 24.2% (95% CI, 16.7–31.6).

The diagnostic performance of International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) code abstraction strategies varied considerably. For R-code sepsis, sensitivity was 4.1% (95% CI, 3.6–4.7), with a specificity of 96.1% (95% CI, 94.5–98.0). The positive predictive value (PPV) was 89.7% (95% CI, 87.1–92.3), and the negative predictive value (NPV) was 95.5% (95% CI, 94.9–96.1).

In the explicit sepsis subgroup, sensitivity increased to 25.3% (95% CI, 21.8–29.5), with a specificity of 90.9% (95% CI, 89.7–92.2). The PPV was 84.4% (95% CI, 79.1–89.7), while the NPV was 96.5% (95% CI, 95.9–97.0).

Among implicit sepsis cases, including explicit sepsis, sensitivity was highest at 35.3% (95% CI, 31.3–39.4). However, specificity decreased to 68.9% (95% CI, 63.5–74.3). The PPV for this subgroup was 69.2% (95% CI, 68.1–70.1), and the NPV was 82.4% (95% CI, 81.5–83.4).