Incidence and 30-Day Mortality of Community-Acquired Pneumonia (CAP) in the Medicare Fee-For-Service (FFS) Population

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BACKGROUND

Among infectious diseases, CAP is the leading cause of death in the developed world and represents an important public-health burden in the United States.1 CAP is estimated to be $8.4–10 billion (USD value from 1995) annually in hospitals in the United States.2,3 The cost of CAP is estimated to be $8–$10 per 100,000 Medicare beneficiaries.4

OBJECTIVE

In this study, we examined the epidemiologic burden of CAP in the Medicare fee-for-service (FFS) patient population. We examined the risk profile and its association with clinical outcomes of CAP episodes to understand the underlying etiologic factors and determine whether improvements in CAP prevention and management could reduce the economic burden.

METHODS

Patient population

The Medicare 5% random sample was created by selecting a stratified random sample of Medicare beneficiaries with Medicare Part A and Part B enrollment in 2007. Patients in the Medicare 5% random sample with Medicare Part A and Part B enrollment in 2007 and 2008 were considered for inclusion. The majority of the older adults impacted by CAP are covered by Medicare; we examined the Medicare fee-for-service (FFS) population.

Identification of CAP episodes

CAP episodes were constructed from pneumonia claims (Figures 1 and 2). Consecutive inpatient pneumonia was defined as a primary diagnosis of pneumonia; or sepsis or respiratory failure as primary diagnosis plus pneumonia as secondary diagnosis on Part A hospital discharge claims.

CAP risk level

Risk strata were identified for each CAP episode based on indication of an immunocompromising or chronic condition within 14 days of the CAP index date. Episodes were also categorized based on the presence or absence of a Medicare advantage plan.

Length of CAP episodes

The mean length of CAP episodes was 6.3 days (SD = 3.5 days), with 62% of episodes being outpatient episodes (Table 2). The peak frequency of CAP occurred between January and March 2007-2008. The overall mean ± SD length of inpatient and outpatient CAP episodes was 6.3 ± 3.5 days. The majority of outpatient episodes lasted an episode length of 1–3 days (Table 2).

RESULTS

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CONCLUSIONS

• CAP represents an important public-health burden in the Medicare FFS population aged ≥65 years; CAP incidence rate of 4.58 per 100,000 person-years in 2007-2008.

• Incidence and mortality increase with increasing age and presence of comorbidities.

• CAP occurs year-round, but is more frequent in the winter months (January-March).

• Additional research is being conducted to assess how the epidemiologic burden of CAP translates into an economic burden.

• Based on the incidence rate and the size of the Medicare FFS population aged ≥65 years, these results suggest an estimated 1.13 million cases of CAP and 69,000 CAP-related deaths annually among this population.

REFERENCES


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