NATIONAL CENTER FOR EMERGING AND ZOONOTIC INFECTIOUS DISEASES

Trends in the Length of Antibiotic Therapy Among Hospitalized Adults with Uncomplicated Community-Acquired Pneumonia, 2013-2020

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BACKGROUND

- The 2014 United States National Strategy for Combating Antibiotic Resistant Bacteria goal aimed to reduce inappropriate antibiotic use in hospitals by 20% by the year 2020
  - Community-acquired pneumonia (CAP) is a target for antibiotic stewardship interventions
- American Thoracic Society/Infectious Diseases Society of America treatment guidelines for adults with uncomplicated CAP emphasize:
  - 5 day minimum length of antibiotic therapy (LOT)
  - LOT > 7 days (*or > 3 days after clinical improvement) rarely necessary
- Previous study examining length of antibiotic therapy among adults hospitalized with uncomplicated CAP in 2012 and 2013
  - Median LOT just under 10 days
  - > 70% of patients exceeded the recommended duration of antibiotics

METHODS

- Evaluated annual trends in LOT for uncomplicated CAP from 2013-2020 in a cohort of adults 18-64 years in MarketScan Commercial Claims and Encounters
- Inclusion criteria:
  - Patients with a primary diagnosis of bacterial or unspecified pneumonia using International Classification of Diseases 9th and 10th revision codes
  - No hospital discharges in previous 30 days
  - Hospital Length of stay (LOS) of 2-10 days
  - Discharged home with self-care (surrogate for clinical improvement)
  - Not re-hospitalized in the 3 days following discharge

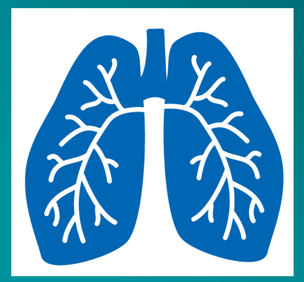
Total Length of Therapy (LOT)= Inpatient LOT + Post-discharge LOT

Estimated based on LOS

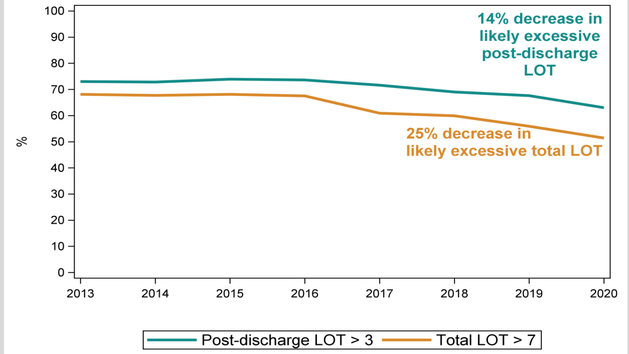
Post-discharge days supply

- Total antibiotic LOT calculated:
  - Inpatient LOS and post-discharge LOT data obtained from MarketScan database
  - Inpatient LOT estimated based on LOS from PINC AI Healthcare Database
- Proportion of total LOT > 7 days and post-discharge LOT > 3 days considered indicators of likely excessive LOT

Excessive length of antibiotic therapy for uncomplicated community-acquired pneumonia decreased by 25% from 2013-2020, surpassing the U.S. National Strategy goal.



Proportion of uncomplicated community-acquired pneumonia patients with likely excessive length of antibiotic therapy (LOT), 18-64 years, MarketScan 2013-2020



RESULTS

- From 2013 to 2020, 44,976 uncomplicated CAP hospitalizations among patients 18–64 years
  - Median LOS 3 days
  - Median age 54 years, 56% female
- From 2013 to 2020, median total LOT decreased 9.6 days to 8.6 days
  - Proportion of patients with total LOT > 7 days decreased from 68% to 51% (% change: -25%)
  - Proportion with post-discharge LOT > 3 days decreased from 73% to 63% (% change: -14%)

CONCLUSIONS

- From 2013-2020, the proportion of patients with uncomplicated CAP with likely excessive LOT decreased by 25%, surpassing the National Strategy goal
- Antibiotic stewardship programs should continue to pursue interventions to reduce excessive LOT, particularly targeting post-discharge antibiotic therapy

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