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# Cystic Fibrosis Research News

## Title:

PREDICTORS OF PULMONARY EXACERBATION TREATMENT IN CYSTIC FIBROSIS

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## What was your research question?

We wanted to understand how pulmonary exacerbations are treated when they are recorded during clinic visits at US CF Centers, and which patient or exacerbation characteristics are linked to treatment choices.

## Why is this important?

Pulmonary exacerbations are important events in the lives of people with CF. Although exacerbations are common, very little is known about which treatments provide better results. Our future goal is to compare different exacerbation treatments to optimize treatment. To do this, we need to understand how current treatments are chosen, and how that affects outcomes.

## What did you do?

We used data from the US CF Foundation Patient Registry to report what antibiotic treatments were recorded for pulmonary exacerbations at clinic visits in 2013-2014. We selected the first exacerbation for each patient after a clinic visit at which there was no pulmonary exacerbation. We used a statistical analysis called logistic regression to determine if there were clinical characteristics associated with choice of oral, inhaled, or intravenous (IV) antibiotics, or no antibiotics. We also recorded outcomes in the 3 months following treatment.

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### What did you find?

There were 14,265 children and adults with CF with at least one pulmonary exacerbation recorded at a clinic visit. Of these, 21% received no antibiotics, 62% received new oral and/or inhaled antibiotics, and 17% had IV antibiotics within 14 days. Compared to IV antibiotics, people with CF treated with oral antibiotics were generally younger and healthier. Following treatment, 30% did not return to clinic within 90 days. Of those who were seen again within 90 days, treatment with IV antibiotics occurred for 24% treated without antibiotics, 23% of new oral and/or inhaled antibiotics, and 27% of IV antibiotics.

### What does this mean and reasons for caution?

Our results demonstrate that people with CF are often treated for pulmonary exacerbations at clinic visits, that younger and healthier people are more likely to receive oral antibiotics, and many people are not evaluated again in clinic for over 3 months after treatment. The US CF Foundation Patient Registry does not include information on treatments prescribed via telephone, or how people with CF feel after they are treated with antibiotics for a pulmonary exacerbation.

### What's next?

Results from this study will be used to design additional studies of pulmonary exacerbation treatments in people with CF.

### Original manuscript citation in PubMed

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