

Cystic Fibrosis Research News

Title:

The impact of modulator therapy in cystic fibrosis on patterns of hospitalization related to age. Results from an analysis of US inpatient episodes 2006-2016.

Lay Title:

Changes in inpatient episodes following the introduction of modulator therapy across different age groups in the USA

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What was your research question?

How did the introduction of modulator treatment affect hospital stays of people with cystic fibrosis (CF) from different age groups in the USA?

Why is this important?

The discovery and use of modulator treatment has the potential to improve outcomes for people with CF who have access to them. These new treatments are however very expensive. These therapies would probably benefit younger people more than older people who may already be experiencing more advanced CF disease. If so, younger people may be less likely to go to hospital, which is where the economic savings that offset the high cost of modulator treatment are to be found.

What did you do?

We compared patterns of hospital attendance among people with CF younger than 20 years of age and those 20 years and older in the USA. We used a nationally representative healthcare database of hospital attendance from 2006 to 2016. We examined the number of admissions, mortality, hospital charges and the frequency of lung transplantation across groups and over time. We compared the data from before modulator treatment was available to current practice with modulator treatment.



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What did you find?

After the introduction of modulator treatment, fewer people under 20 were admitted to hospital, while more people aged 20 and over were admitted. The biggest reductions were seen among those under 20 who were white, had private insurance and lived in affluent areas. The mortality rate in both age groups fell, total hospital charges rose in both groups, but these rose by more among those aged over 20. The proportion of admissions having lung transplantation fell among those aged under 20 but rose among those aged 20 and over.

What does this mean and reasons for caution?

The development of modulator treatment can significantly improve the outcomes of people with specific genetic mutations who can access them. Hospital administration data suggest the upward trend in hospitalizations that existed among people with CF was disrupted in the age group who stood to benefit most from modulator treatment while continuing its upward path among older people with CF. Some caution is warranted though. We were looking at data that only showed hospital episodes and not individuals with CF, the data also did not show specific treatments but rather time periods when they did or did not exist.

What's next?

We should create groups of people of different ages and track their healthcare use over time to work out the impact of using modulator treatments on health and how healthcare is used. This will allow us to establish real world evidence of the value of these therapies and the existence of needless differences in who can access them.

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