

Cystic Fibrosis Research News

Title:

STRATEGIES FOR NEWBORN SCREENING FOR CYSTIC FIBROSIS: A SYSTEMATIC REVIEW OF HEALTH ECONOMIC EVALUATIONS

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What was your research question?

We wanted to see what is already known about the cost-effectiveness of strategies for newborn screening for cystic fibrosis (CF). Cost-effectiveness studies evaluate the efficiency of treatment strategies. In this case, they compare the difference in costs of different newborn screening strategies and their potential to improve healthcare burden with earlier management.

Why is this important?

Starting treatment for cystic fibrosis (CF) early in life has important health benefits. Since the early 2000's, there has been an increased interest in Europe in newborn screening to detect children born with CF as soon as possible. More and more countries have implemented national screening programmes, but we see that these programmes use different screening strategies. Health policy makers must make a decision which screening programme they want to use in their country. Cost-effectiveness studies play a role in their selection.

What did you do?

We looked for health economic evaluations that were published in or after the year 2007 that compared the cost-effectiveness of at least two screening strategies. Afterwards, we thoroughly assessed the scientific quality of the selected studies with a specialized checklist.



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What did you find?

We found six health economic evaluations, most of good quality. First of all, we found that screening is more cost-effective than not screening. This means newborn screening detected more children with CF or gained more life years against lower costs. The studies that compared a strategy where the blood of the newborn babies is first tested on immunoreactive trypsinogen levels and then on pancreatitis-associated protein levels (IRT-PAP strategy) with other strategies found that IRT-PAP was the most cost-effective strategy. In some studies, the ranking of the most cost-effective strategies was influenced by costs and performance of the individual tests.

What does this mean and reasons for caution?

There is some evidence that IRT-PAP is the most cost-effective strategy for newborn screening for CF. However, it should be noted that the number and type of screening strategies included and the methodologies used to calculate cost-effectiveness differed from one study to the other. Also, economic considerations are only one part of the story when deciding on a suitable screening strategy. Decision makers will have to think about a series of practical and ethical issues, too.

What's next?

We already know that early treatment of CF has a positive effect on the course of the disease, but it would be interesting to investigate how early detection with newborn screening influences quality of life and risk of mortality. This would help to better predict the cost-effectiveness of screening strategies.

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