NHSEED - - Economic Study or Review

A decision-tree approach to cost comparison of newborn screening strategies for cystic fibrosis

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Study design (if review, criteria of inclusion for studies)

Simulation approach with decision trees analysis.

Participants

Newborns

Interventions

Immunoreactive trypsinogen (IRT) screening followed by a second IRT test against an IRT/DNA analysis.

Outcome measures

The numbers of newborns given a diagnosis of cystic fibrosis and costs of screening strategy at each branch and cost per newborn.

Main results

Simulations revealed a substantial number of potential missed diagnoses for the IRT/IRT system versus IRT/DNA. Although the IRT/IRT strategy with commonly used cutoff values offers an average overall cost savings of $2.30 per newborn, a breakdown of costs by societal segments demonstrated higher out-of-pocket costs for families. Two potential system failures causing delayed diagnoses were identified relating to the screening protocols and the follow-up system.

Authors' conclusions

The IRT/IRT screening algorithm reduces the costs to laboratories and insurance companies but has more system failures. IRT/DNA offers other advantages, including fewer delayed diagnoses and lower out-of-pocket costs to families.

http://dx.doi.org/10.1542/peds.2011-0096

See also

Pediatrics. 2012 Feb;129(2):e339-47. Epub 2012 Jan 30

Keywords

Neonatal Screening; Newborn; non pharmacological intervention - diagn; screening; diagnostic procedures;