NHSEED - - Economic Study or Review

Cost-effectiveness of newborn screening for cystic fibrosis determined with real-life data

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

cost-effectiveness study. A previously developed decision analysis model for NBSCF was fed with model parameters mainly based on a study evaluating two novel screening strategies among 145,499 newborns in The Netherlands.

Participants

newborns

Interventions

Four screening strategies for NBSCF, i.e. immunoreactive trypsinogen-testing followed by pancreatitis-associated protein-testing (IRT-PAP), IRT-DNA, IRT-DNA-sequencing, and IRT-PAP-DNA-sequencing, each compared to no-screening.

Outcome measures

Cost-effectiveness

Main results

The four screening strategies had cost-effectiveness ratios varying from â¬23,600 to â¬29,200 per life-year gained. IRT-PAP had the most favourable cost-effectiveness ratio. Additional life-years can be gained by IRT-DNA but against higher costs. When treatment costs reduce with 5% due to early diagnosis, screening will lead to financial savings.

Authors' conclusions

NBSCF is as an economically justifiable public health initiative. Of the four strategies tested IRT-PAP is the most economic and this finding should be included in any decision making model, when considering implementation of newborn screening for CF.

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See also

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Keywords

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