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Title **Screening for Phenylketonuria in Newborns in Finland**

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Reference Rapid HTA report. May 2008

Aim

To evaluate the cost effectiveness of phenylketonuria (PKU) screening in newborns in Finland, especially regarding PKU screening targeted at infants born to non-Finnish parents.

Conclusions and results

Early treatment may prevent irreversible brain damage caused by PKU. Finland does not have a national screening program since PKU incidence is only 1:100 000 to 1:200 000 (ie, significantly lower than elsewhere).

The Guthrie method, fluorometry, or tandem mass spectrometry (MS/MS) are used to screen for PKU, with MS/MS being the most specific method. The Guthrie method and fluorometry were found to be cost effective in many countries. MS/MS was cost effective only when combined with screening of at least one other metabolic disease. In 2000 to 2006, infants born to immigrant parents increased from 2.3% to 3.4% of all newborns. Annual costs for screening would be 96 000 euros for these infants, and 2.7 million euros for screening all infants. Twenty hospitals (representing 80% of all births) screened for PKU in newborns with immigrant parents. A single case of PKU was found by screening, and no other cases were identified in 7 years. The cost effectiveness of both universal and selective PKU screening in Finland is dubious. Targeted screening evokes ethical questions, eg, definition and identification of ethnic origin and acceptability as a public health strategy.

Methods

Assessment strategy:

- Systematic review
- Primary data: The number of infants with immigrant parents in 2000 to 2006 was retrieved from the National Medical Birth Register combined with the Finnish Population Information System. Current screening practice was assessed by a survey of maternity hospitals.

Type of analysis: decision analysis, cost analysis, social/ethical implications consideration.

Data sources: Cochrane, DARE, CRD, HTA, EED, MEDLINE.

Types of studies assessed: all.

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