Rheumatic Heart Disease screening- a population health perspective

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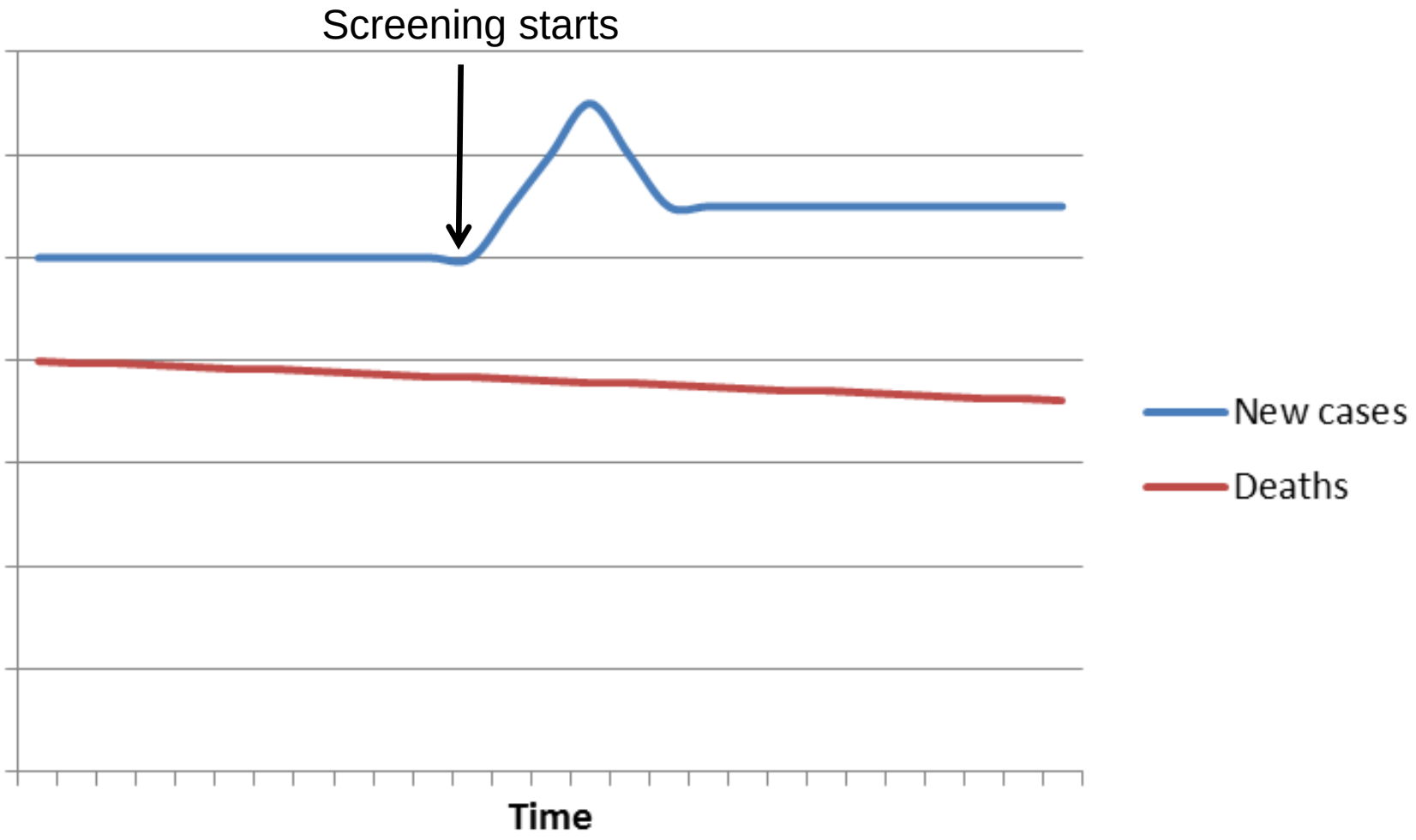
Orientation- RHD screening

- Screening for previously unidentified RHD heart disease in children/young people
- Involves using portable ECHO to identify children/young people with cardiac changes that may be consistent with RHD
- Individuals are then referred to tertiary health services for fuller assessment, diagnosis and appropriate treatment.
- Population screening is not just about case detection, changing the health outcomes of people with RHD
  - Reduce disease progression through preventing recurrences of ARF
  - Reducing premature cardiac deaths

Image source: Te Papa

Neuroblastoma screening



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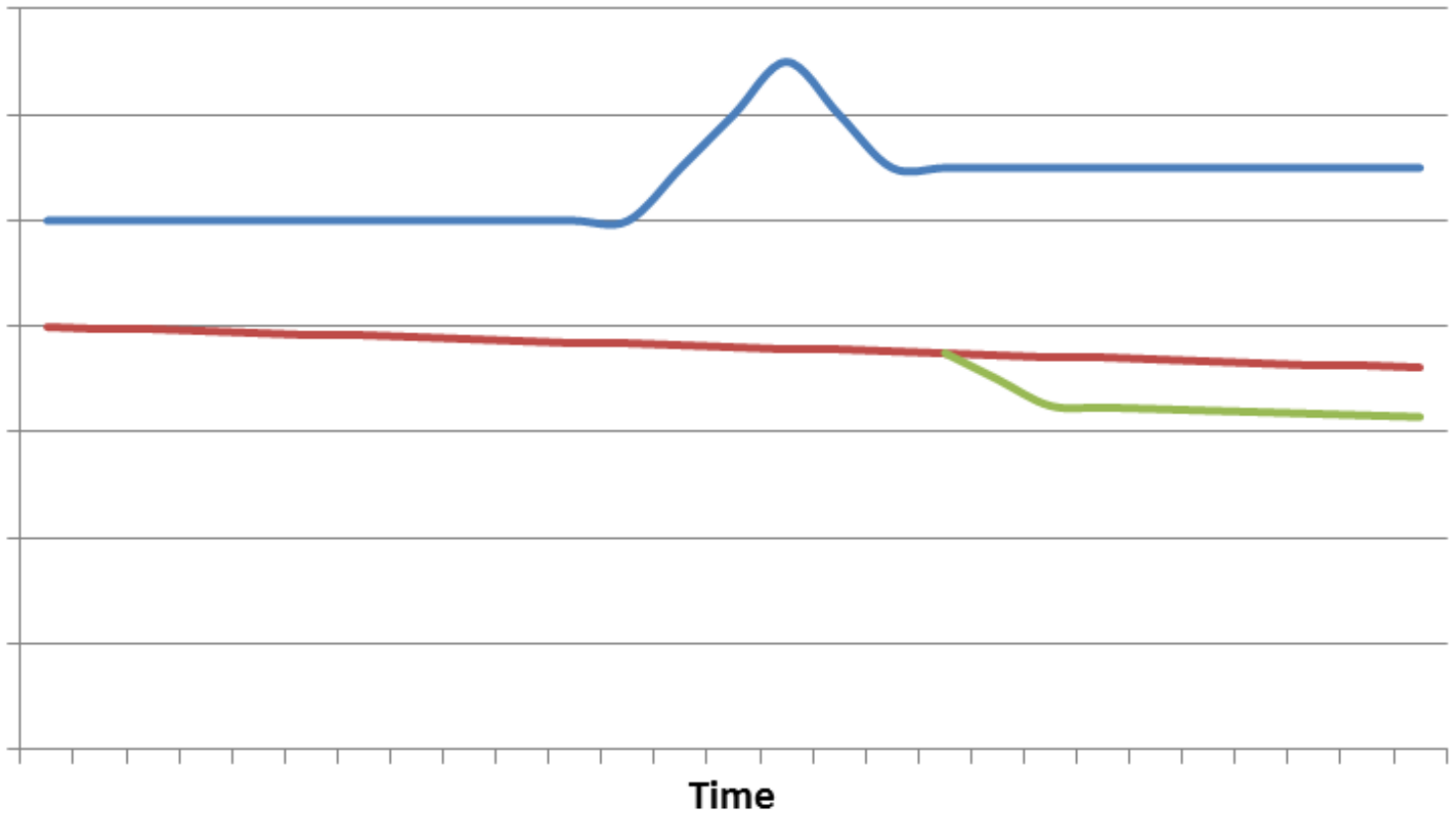
Neuroblastoma screening



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Screening of Infants and Mortality Due to Neuroblastoma

William G. Woods, M.D., Ru-Nie Gao, M.D., Jonathan J. Shuster, Ph.D., Leslie L. Robison, Ph.D., Mark Bernstein, M.D., Sheila Weitzman, M.D., Greta Bunin, Ph.D., Isra Levy, M.D., Josee Brossard, M.D., Geoffrey Dougherty, M.D., Mendel Tuchman, M.D., and Bernard Lemieux, M.D.

N Engl J Med 2002; 346:1041-1046 | April 4, 2002 | DOI: 10.1056/NEJMoa012387

BACKGROUND

Neuroblastoma, the most common extracranial solid tumor that occurs in early childhood, can be identified in the preclinical stages by the detection of catecholamines in the urine. However, it is unknown whether routine screening for neuroblastoma reduces mortality due to this disease.

Full Text of Background...

METHODS

Through their parents, we offered screening for neuroblastoma at three weeks and six months of age to all 476,654 children born in the province of Quebec, Canada, during a five-year period (May 1, 1989, through April 30, 1994). The participation rate was 92 percent. The rate of death due to neuroblastoma was determined and compared with the rates in several unscreened control populations born during the same period.

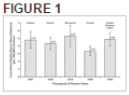
Full Text of Methods...

RESULTS

Among children younger than eight years of age in the Quebec cohort, there were 22 deaths due to neuroblastoma; the cumulative (±SE) mortality rate due to neuroblastoma was 4.78±1.14 per 100,000 children over a period of nine years. The standardized incidence

MEDIA IN THIS ARTICLE

FIGURE 1



Cumulative Mortality Due to Neuroblastoma among Children Younger Than Eight Years of Age.

TABLE 1

Characteristics of Neuroblastoma in the 22 Children Who Died of the Disease in the Quebec Cohort.

ARTICLE ACTIVITY

122 articles have cited this article ›

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Neuroblastoma Screening at One Year of Age

Freimut H. Schilling, M.D., Claudia Spix, Ph.D., Frank Berthold, M.D., Rudolf Erttmann, M.D., Natalja Fehse, M.D., Barbara Hero, M.D., Gisela Klein, Ph.D., Johannes Sander, M.D., Kerstin Schwarz, M.D., Joern Treuner, M.D., Ulrich Zorn, Ph.D., and Joerg Michaelis, M.D.

N Engl J Med 2002; 346:1047-1053 | April 4, 2002 | DOI: 10.1056/NEJMoa012277

BACKGROUND

Neuroblastoma is the second most common type of childhood tumor. It is not known whether screening for neuroblastoma at one year of age reduces the incidence of metastatic disease or mortality due to neuroblastoma.

Full Text of Background...

METHODS

We offered urine screening for neuroblastoma at approximately one year of age to 2,581,188 children in 6 of 16 German states from 1995 to 2000. A total of 2,117,600 eligible children in the remaining states served as controls. We compared the two groups in terms of the incidence of disseminated disease and mortality from neuroblastoma.

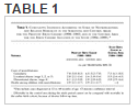
Full Text of Methods...

RESULTS

A total of 1,475,773 children (61.2 percent of those who were born between July 1, 1994, and October 31, 1999) underwent screening. In this group, neuroblastoma was detected by screening in 149 children, of whom 3 have died. Fifty-five children who had negative screening tests were subsequently given a diagnosis of neuroblastoma; 14 of these children have died. The screened group and children in the control area had a similar incidence of stage 4 neuroblastoma (3.7

MEDIA IN THIS ARTICLE

TABLE 1



Cumulative Incidence According to Stage of Neuroblastoma and Related Mortality in the Screening and Control Areas for the Prestudy Birth Cohort (1990–1993) and in the Control Area for the Birth Cohort Included in the Study (1994–1999).

TABLE 2

Results of Urine Screening Tests for Neuroblastoma among Children Screened between 9 and 18 Months of Age.

- The condition is a suitable candidate for screening
- There is a suitable test
- There is effective and accessible treatment
- There is high quality evidence (ideally RCTs) that a screening programme is effective in reducing mortality or morbidity
- The potential benefit outweighs the potential harms
- The health care system is capable of supporting the necessary elements of the screening pathway
- There is consideration of social and ethical issues
- There is consideration of cost benefit issues

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Promoting Effective Health and Disability Services

Should we screen in the absence of evidence of effectiveness?

- Cost-effectiveness and benefits/ harms
- Opportunity cost
- Beyond reasonable doubt
- Impact of decreasing RF incidence
- Underlying assumptions

Shameless plug