Screening for Amblyopia

To the Editors:

Current recommendations state children should be screened for visual impairment, including amblyopia.\(^1\) Evidence suggests screening for amblyopia is not cost-effective,\(^2\) yet clinicians believe removing these programs is unacceptable. We consider possible reasons for this.

Imagine the United States is preparing for a disease outbreak that may cause 600 fatalities. You have to choose between two vaccination schedules: Program A will save 200 people and Program B has a probability of saving all 600 people with a probability of 1 in 3. Most people choose Program A. When the question is framed differently, a different response is received.

Now choose between two different vaccination schedules: Program C will allow 400 people to die and Program D will let no people die with a probability of 1 in 3 and has a probability of 2 in 3 that all 600 will die. Most people choose Program D.\(^3\) The situations are identical in quantitative terms, but in the second question the decision-maker is losing instead of saving lives. Setting zero lives lost as the status quo from which losses are measured makes the loss of 400 people more loathsome than the probable loss of 600. This is known as loss aversion.

Consider the same example but with two programs for vision screening where up to 600 children could develop amblyopia. Program A will prevent 200 of these children becoming amblyopic and Program B will prevent all 600 becoming amblyopic with a probability of 1 in 3. Most people will choose Program A. However, if the question is framed differently, a different response is received.

Now choose between two different screening options: Program C will fail to prevent 400 children becoming amblyopic and Program D will prevent all 600 becoming amblyopic with a probability of 1 in 3 and has a probability of 2 in 3 that all 600 will become amblyopic. Most people choose Program D. Again, the situations are identical in quantitative terms, but in this scenario we are considering the number of children developing amblyopia if we stop screening. The fact that screening programs already exist makes the prospect of removing them unappealing. If there were no screening program in place, any reduction would seem positive. Policy makers are not keen to make active decisions that appear to increase harm.

Second, availability heuristic may be applied. Clinicians can often draw to mind “one that would have got away,” but ignore the numerous people tested without reason. The only people who benefit from screening are those with the condition. Although clinicians may provide evidence and recall experiences of patients they have seen and treated, these occurrences must be put into context. Think of all the people who have not been seen, examined, and treated. Removing screening allows those resources to be allocated to cost-effective treatments.

The final element may relate to benevolence: the belief that it is better to do too many than to miss a few. Here the availability of treatment requires that it is given, regardless of the capacity to benefit the individual.

Decisions of healthcare allocation ultimately involve cost and the value that is placed on health. Clinical and economic opinions frequently differ, so understanding the reasoning behind these beliefs may address why such polarity in opinion occurs.

REFERENCES


Jill Carlton
School of Health and Related Research
University of Sheffield
Sheffield, United Kingdom

and

Kevin J. Smith, FFPH
Yorkshire and the Humber Specialised Commissioning Group
NHS Barnsley
Barnsley, United Kingdom

doi: 10.3928/01913913-20110227-01