

The Art of Linear Programming for a Healthy and Economical Diet

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Abstract: In the last decade, the quality of life has improved thanks to the cure, control and prevention of various diseases such as obesity, diabetes, high blood pressure, anemia and osteoporosis, through a healthy diet. However, research in the field of healthcare provides a limited understanding on how to provide good nutrition without incurring in high operational costs, especially for low-income populations. This paper proposes an optimization model that minimizes the costs incurred in the preparation of the diet of low-income children from 0 to 5 years of age, who have reported mal nutrition, in a local food bank. Through the application of linear programming, a diet proposal is offered that would allow the food bank to reduce operational costs, while at the same time encourage its users to adopt a healthier eating habit—which they don't have nowadays given the economic implications.

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