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Títol: The Top Trading Cycles Algorithm and Respecting Improvement in Kidney Exchange Programs

Autor: Flip Klijn (IAE-CSIC/BSE)

Web: <https://sites.google.com/view/flipklijn/>

Abstract: The paper studies the design of allocation rules in Kidney Exchange Programs (KEPs), introducing and analyzing the "respecting improvements" property, which ensures that patients benefit when bringing better or additional donors. Building on the foundational Shapley-Scarf housing market model and the Top Trading Cycles (TTC) algorithm, the authors provide game-theoretic insights and efficient optimization formulations. They highlight that while TTC satisfies the incentive property under strict preferences, standard transplant-maximizing objectives may violate it. The study also includes simulations showing that core allocations strike a good balance between transplant quantity/quality and incentivizing patient participation. The work underscores the importance of patient-donor incentives and proposes core allocations as a promising and practical alternative.

Sobre el Autor: Flip Klijn es Director e Investigador Científico en el Institut de Anàlisis Económico ((IAE-CSIC) y *research professor* en la Barcelona School of Economics (BSE). Su investigación actual se enfoca en el diseño de mecanismos centralizados para mercados que incorporan la asignación de bienes indivisibles a agentes económicos, así como para mercados donde los bienes o servicios se intercambian sin transferencias monetarias.