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Community-engaged operations research: Quantitative and qualitative problem-solving for local impact and social change. Preliminary report.

In these days of 'analytics', 'big data' and 'smart cities', many of us are aware of the importance of data and quantitative analytic methods for program design, implementation and evaluation. However, many mission-driven but resource-constrained nonprofit organizations face problems that may not match well with conventional quantitative methods, at least initially.

'Community-engaged operations research' can enable such community-based organizations to collect and use data for creative decision-making. I will discuss ways that qualitative and quantitative data can support program design through community involvement in problem identification, data collection and analysis, and recommendations for new services, programs, and infrastructure. This approach can support engagements with community-based organizations as well as directly with community members; it can generate model-based prescriptions that are Pareto-improving, as well as insights about problem situations based mostly on qualitative analysis that can by themselves yield valuable insights for planning and operations. This approach is compatible with efforts to infuse principles of diversity, equity and inclusion, as well as social and racial justice, into structured decision-making and decision support. (Received September 15, 2020)