MODELING TECHNIQUES ARE COMMONPLACE in many fields. Health economic applications, for example, use modeling to forecast lifetime quality-adjusted life years in cost-effectiveness analysis. These models typically take a broad perspective, attempting to model national policy impacts or to be representative of the national population. Modeling techniques are also common in the management and organization literatures, where planning models are used to help specific organizations, such as hospitals, develop and implement strategic plans to address emerging issues. Less common, however, are models to help local governments make decisions regarding the substance use treatment needs of their population.

Three articles in this supplement help fill this gap and highlight the potential utility that models to support needs-based planning can have if tailored for local governmental authorities. Brennan and colleagues (2019) illustrate how an existing modeling framework can be adapted for local authorities in England to predict alcohol treatment need and allow a variety of “what-if” scenarios to be assessed. Hirschovits-Gerz and colleagues (2019) demonstrate how national data can be used to develop local models of substance use treatment need for seven Finnish municipalities. Mota and colleagues (2019) illustrate the use of local data to support a model of substance use treatment need for São Paulo, Brazil.

Taken as a group, these three articles show the potential of modeling for local substance use policy. Local policymakers urgently need the information that such models can provide since it is often local policy that has the biggest impact on people’s lives. For example, the U.S. federal response to the opioid epidemic has been slow, but local efforts to address the opioid epidemic have moved at a much faster pace. One such effort in Guilford County, NC, involves partnering local government with researchers at the University of North Carolina at Greensboro to support peer outreach, needle exchange, and naloxone kits for first responders to help prevent opioid overdose deaths. Although Guilford County is fully committed to combating the opioid epidemic, like all local governments its budget is limited and, therefore, it needs reliable projections of service need, capacity bottlenecks, and impacts on the budgets of the involved local agencies to sustain and improve its efforts. Validated, peer-reviewed local models are needed as much as, if not more than, the national models that are typically published in peer-reviewed journals because the stakes are so high and the margins so narrow for local municipalities.

The models presented in these three articles offer a template for future treatment system modeling efforts at the local government level. Rather than starting from scratch, all three articles build on earlier local modeling efforts, either by Rush (1990) or by Ritter and colleagues (2013). Building on these earlier efforts is essential to promote consistency across models. But more methodological work is needed to exploit the growing amounts of local data available to researchers and policymakers. National efforts to improve data quality also improve local data quality because much of the data in national reporting systems originates at the local level. Furthermore, efforts such as the MetroLab Network (https://metrolabnetwork.org) are improving local data coordination and quality independent of national reporting requirements. Future modeling efforts can and should tap into these efforts—and into the burgeoning field of data science—to develop real-time planning tools that help local governments address the substance use needs of their citizens.

Beyond simply modeling treatment need, future efforts should build on the work started here to support budget impact analyses and other decision support tools for local policymakers. Future work should also merge existing models to develop more comprehensive models to assess the full range of issues related to substance use disorders, from treatment need to criminal justice and school system resources. Ever more complex and comprehensive models will become possible as computing resources and data availability continue to improve. The challenge to researchers working on models of the substance use treatment system will be to keep pace with these developments while simultaneously ensuring that their work is accessible and useful to policymakers at all levels.
Jeremy W. Bray, Ph.D.

Department of Economics, UNC Greensboro, Bryan School of Business and Economics, 462 Bryan Building, PO. Box 26170, Greensboro NC 27402-6170

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