A RAND NOTE

Developing Games of Local Drug Policy

James P. Kahan, John Setear, Margaret M. Bitzinger, Sinclair B. Coleman, Joel Feinleib
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Developing Games of Local Drug Policy

James P. Kahan, John Setear, Margaret M. Bitzinger, Sinclair B. Coleman, Joel Feinleib
This Note describes the design of and the lessons learned from two pilot runs of a seminar game of local (i.e., urban level) drug policy, conducted in RAND's Drug Policy Research Center (DPRC). The eventual purpose in developing the game is to provide policymakers with an exercise that illuminates the complex interrelationships of drug policy and that provides an appropriately contextual forum in which to present various research results. This study should be of interest to drug policy researchers, gaming researchers, and people concerned with local drug policy.

The game reported here was developed as part of the Gaming Project, a core activity of the DPRC. The project is supported by funds provided by The Ford Foundation and the Weingart Foundation.
SUMMARY

Seminar gaming is a qualitative research methodology used to develop policy options and explore their potential consequences. Individuals ("players") participating in a game are assigned to various "teams," representing different actors in the drug policy area. The game is directed by a "control team" that constructs the situations and guides the players. The control team presents a scenario describing the current situation to the player teams, who consider policy options to deal with the situation. Each team writes a "move," or proposals for future policy. The control team integrates the moves of each team to develop a new scenario. The new scenario is presented to the teams for further consideration, as the process repeats for several iterations. Following the last iteration, all participants gather en masse in a final meeting to discuss the lessons learned from the game.

For the purposes of RAND's Drug Policy Research Center (DPRC), seminar gaming is an attractive tool:

- Drug policy involves a great number of closely interrelated actors, who are often intentionally or unintentionally operating at cross purposes. The multi-team, partly adversarial nature of seminar gaming is therefore highly relevant to the drug policy problem, at least those aspects involving high-level policy.
- Policy research in the field is highly incomplete. The qualitative nature of seminar gaming is therefore not a grave disadvantage; indeed, any quantitative methodologies focusing on high-level policy are likely to be misleading in the absence of further quantitative research into its components.
- Policymakers are often ignorant both of the basic interrelationships that determine the success of various policies and of whatever policy research is available. An educational void therefore exists that seminar gaming on drug policy might hope to fill.

Given our resource constraints and the research interests of the DPRC, we limited the scope of the game to consideration of

- *governmental* as opposed to individual or corporate decisions,
- *local* as opposed to national policy,
- *illegal* as opposed to legal but abused drugs.
The first game took place in August 1990. For this run, we wanted a private but
critical audience, so we used RAND colleagues involved in the DPRC as players. For Game
2, conducted in January 1991, we widened our audience. Four players were RAND staff, four
were university-affiliated policy researchers, three were from government, three were
members of the DPRC Advisory Board, and one represented a foundation sponsoring the
DPRC. For both games, team rosters were composed by distributing people so that the teams
were heterogeneous with respect to their primary employment.

GAME DESIGN

The design of a seminar game necessitates the consideration of a number of issues,
including the issues to be addressed in the game and how they will be presented in the
scenario, the databases that support the play of the game, the structure and role of player
teams, and the logistics of play.

Substance and Scenario

Our scenario is built around the mythical city of New Elsinore, which we built by
transforming and combining statistical information from several real cities. Data defining
New Elsinore included cursory information about its demographics, economic base,
governance, schools, and health-care resources and more detailed information about areas of
particular concern to drug policy, such as law enforcement, courts, prisons and jails, drug
treatment, and drug prevention. The scenario portrayed New Elsinore as a metropolitan
area with a significant and increasing drug problem. All of this information was provided to
the players through maps and graphical presentations, newspaper articles and editorials
describing the city, and a "New Elsinore Almanac" that was a compendium of statistical
data.

We provided a motivation for civic action by creating a precipitating incident in the
form of an incidental killing of a child in a drug-infested neighborhood. This event triggered
the formation of a Mayor's Council Against Drugs, composed of separate task forces—our
player teams—charged with making recommendations for different areas of drug policy.

A Model to Support the Game

We constructed a spreadsheet model—which we call the Drug User Tracer (DUT)—to
help the control team adjudicate player moves involving the drug treatment and criminal
justice systems. Data for this model came from a number of sources, including:
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- DAWN (Drug Abuse Warning Network)
- DUF (Drug Use Forecasting)
- UCR (Uniform Crime Reports)
- CAL-DADS (California Drug Abuse Data System)

DUT tracks people separately through the drug treatment and criminal justice systems, using different modules. For the treatment module, DUT allows some number of new referrals in a year for emergency rooms, walk-ins, and social service agencies, for heroin, cocaine, amphetamines, and other drugs. These referrals generate treatment candidates for each of the drug treatment modalities. Parameters that affect the drug treatment system include treatment capacity by treatment modality, the waiting list at the beginning of the year for each treatment modality, the probability of leaving a waiting list before starting drug treatment, the probability of completing a treatment program, and the probability of successful treatment.

For the criminal justice module, arrestees are classified according to the crime committed and the type of drug involved if any. Parameters specify a variety of possible actions following arrest, including conviction rates, diversion to treatment for drug-related offenses, sentencing, and actual time served. The two modules interact in dealing with diversion from the criminal justice system to the treatment system.

Any of the parameters in DUT can be reset during the play of the game by player moves. Thus, arrest data, conviction and sentencing rates, treatment diversions, rates for probation with drug treatment, and treatment capacities are all potential game parameters that the controllers can adjust in response to player moves. Players can also set priorities for treatment, so that certain defined groups have relatively short expected waiting times for receiving treatment, thus reducing the attrition rates for those groups.

**Structure and Role of the Teams**

In light of the game's focus on local drug policy, and our desire to provide a team structure that allowed for interaction among groups, we constructed three player teams for each game. In Game 1, we constructed three teams, representing dealers, the enforcement community, and the treatment and prevention communities. The choice of team roles was based on a natural separation of the drug world into two opposing camps ("pro-drugs" and "anti-drugs") and then further subdividing the "anti-drug" camp into supply-side and demand-side. Lessons learned from Game 1 caused us to split the enforcement team into two components dealing with police on the one hand and courts and corrections on the other. The
demand-side team was restricted to look solely at treatment issues, and the dealers, although useful, were relegated to the control room.

The Logistics of Play

On the first day, we devoted the entire morning to an introduction of the game and the afternoon to the first move. The introductory session consisted of an overview of the logistics of play, a short briefing on gaming for players not familiar with gaming (the majority), and a presentation of the scenario and accompanying information. Following lunch, players had four hours of discussion and planning, culminating in the first move. The morning of the second day was devoted to the second move, with three hours allotted for discussion, planning, and writing. In the late afternoon of the second day, the players had three hours for the third cycle. The morning of the third day was devoted to a group discussion about what happened in the game and why it happened.

Communications were centered around a control team member assigned to each player team. This person operated a computer terminal to transmit all requests for information and clarification to the game directors via electronic mail and took notes on the deliberations of the player team. The electronic mail format provided several advantages, including inducing precision and brevity in team messages and automatically producing a communications log. The rare conferences between teams were accomplished by delegates meeting face-to-face in the presence of a control team member.

WHAT LESSONS HAVE WE LEARNED FROM THE GAME?

We have learned lessons for game designers, for players, and some for local drug policy.

Lessons for Game Designers

The first two runs of the game proved that while some of our adaptations to the requirements of this type of game were reasonably successful, there remained many issues to be explored and room for the game to improve.

The scenario, although basically sound, can be improved by making more clear the lines of responsibility for policy implementation and providing more guidance to the players. Although the teams were told that they were commissions advising the mayor, the game provided no central authority to act on that advice. The control team was too passive in this regard, so the teams were free to concentrate on their own constituent problems to the exclusion of the larger picture. In the future, we will explore the feasibility of providing this
authority through a fourth player team called an Executive Team that plays the mayor and
other executive authority.

For the world of drug problems, there is rarely a compelling event—a crisis in the
fullest sense of the term. Our device to motivate action was to create a quasi-crisis; in
retrospect, the device worked only moderately well. The event was not sufficiently well-
connected to the tasks the teams had to perform. Our solution to this problem will be to be
more explicit in the mayor's charge to the teams. The taskings will have explicit things each
team must consider, and the team moves will be policy recommendations in a specific format
for each recommendation.

The mechanics of the game were successfully designed and implemented. The
"communicators" sitting with each team and communicating electronically with the control
room made it possible for the control team to remain in a central location instead of running
to player rooms to answer every question. There are areas for improvement, however.
Players reported that the materials were sometimes difficult to comprehend. In the future,
as the formats for games become more standardized, we will develop more and better
graphical presentations of information.

Lessons Learned for Players

Our experience has been that there are lessons learned from the game for all players,
be they researchers, policymakers, or drug agency staff.

For researchers, the simulated experience enables them to better understand the
problems of policymakers. To quote an old Indian saying, "Don't criticize a man until you
have walked a mile in his moccasins." Researchers obtain a better sense of the real-world
impediments to the "ideal policies" that we like to design. For example, RAND researchers
told us that after playing the game, they were better able to anticipate and respond to the
situations they face when they meet with the members of the communities they study.

For policymakers, the game allows them to try "what ifs." By playing a game,
policymakers may be able to avoid policies attractive on the surface but flawed in many
ways. For example, in the second game, the courts and corrections team felt the strong need
to institute a drug treatment program for drug abusing convicts, even knowing that the
treatment system was already overloaded. They were so focused on the sizeable benefits of
such a program that they did not realize that the result of giving offenders first priority for
drug treatment could be characterized as a "Use a gun, get a treatment slot" policy. The
game provided in this instance an understanding that may have been longer and more
painfully learned had the policy been attempted in the real world.
The game also allows local drug policymakers to temporarily escape from the personal animosities and turf battles that inevitably complicate and interfere with real-world solutions to real-world issues. In the abstract city of New Elsinore, players can consider and implement policy options without worrying that these burdensome side effects will sabotage them. The benefit of this freedom is that players learn how well things can go when the system runs smoothly. An equal but perhaps less pleasing benefit—as our players have discovered—is that in the game you cannot blame the system for what happens when a policy is not well thought out.

For all players, the game provides an opportunity to explore why things happen. In the real world, people have neither the time nor the motivation to scrutinize past decisions to figure out why things worked or went wrong. The discussion session at the end of the game provides an opportunity for an honest exchange of viewpoints in a nonthreatening environment.

**Lessons for Drug Policy**

The lessons for policy, although not new, are important ones that are too easily forgotten. The game highlights these lessons, providing concrete examples and elaborations.

A first lesson is that being on the same side of the drug problem does not necessarily result in either agreement or cooperation. Prevention, treatment, police, and the courts all have different foci in terms of space, time, and people, which lead to different objectives and priorities. These differing goals can lead to unanticipated policy conflicts.

For example, in the first game, there was a potential natural alliance between the enforcement and prevention teams. Both teams proposed programs to reduce teenage drug involvement, but neither team made the slightest effort to coordinate with the other. Consequently, there was considerable duplication of effort. The tacit agreement we did observe was between the dealers and the police to reduce teenage involvement in drug sales. The enforcement team stopped undercover operations aimed at adult sellers (as part of a shift to community policing) while the dealers stopped using youthful sellers and moved their operations indoors.

The lesson here—aside from the observation that being on opposite sides does not necessarily preclude agreement—is the need for different agencies to communicate with each other. To avoid duplication or working at cross purposes, you need explicit mutual understanding. But even with that understanding, different agencies may not be able to fully agree, which leads to the second lesson.
The second lesson is that policymaking is the art of continuously balancing tradeoffs. This is true not only between agencies but within agencies. In our games, teams first tried to lay out ideal solutions. The real world impinged in the form of inadequate financial and other resources. The teams then were forced to prioritize their efforts—typically they put most of their efforts on their first priority. Then the real world, this time in the form of other teams’ priorities and unintended consequences, caused them to once more reconsider to find a balance of priorities.

In the second game, for example, the treatment team tried to eliminate methadone maintenance programs when it needed funds for its first priority of treating crack babies. Then, under pressure from a rise in heroin use and the other teams, it reinstated methadone programs but with a reduced number of slots (client openings). Under continuing pressure, it found a strategy to reduce heroin use by not increasing the number of slots, but by increasing the dosage to clients. In this and other instances, the balance among competing interests was never stable, but required continuing adjustment, as circumstances and objectives changed.
ACKNOWLEDGMENTS

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Thanks are also due to Robert MacCoun and William Schwabe for critical readings of earlier drafts of this manuscript.
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1. INTRODUCTION

THE DRUG POLICY RESEARCH CENTER AND POLICY GAMES

This Note describes the design and two pilot runs of a seminar game of local (i.e., urban level) drug policy, conducted in RAND’s Drug Policy Research Center (DPRC). The goals of the DPRC, a multi-year, multi-sponsor research effort, are (RAND, 1990):

- To develop data and analysis to support a reasoned assessment of the nation’s drug problems, and the programs and policies appropriate for alleviating them.
- To educate the large and disparate community of decisionmakers in the drug policy arena about the likely and mutual consequences of their decisions.
- To create a drug policy research community and raise the quality of analysis available to decisionmakers.

Purpose of the Games

We believe that each of these goals can be served by a seminar game of drug policy. Our purpose in developing the game is to provide policymakers with an exercise that illuminates the complex interrelationships of drug policy and that provides an appropriately contextual forum in which to present various research results. To that end, we plan eventually to use actual policymakers as the game’s players.

Our more immediate purpose is less grandiose. Designing and running a game is a complicated enterprise, especially when the subject matter is as diffuse and complex as drug policy. We therefore conducted two pilot versions of the game for knowledgeable audiences; we hoped that the result would be the generation or sharpening of research hypotheses as well as the improvement of the game. This Note presents these pilot games and the lessons we learned from them.

Overview of This Paper

In the remainder of this introductory section, we describe seminar games, argue for their applicability to drug policy, and discuss why we chose local drug policy as the object of the game. We will discuss in Sec. 2 the design issues considered in constructing a game of local drug policy. Then, Sec. 3 will narrate the course of events of the two pilot games played, the first in August 1990 and the second in January 1991. Finally, Sec. 4 will discuss the
lessons learned from this exercise. These lessons are for the players of the game, for the art of policy gaming, and, tentatively, for drug policy.

WHAT ARE SEMINAR GAMES?

Seminar gaming is a qualitative research methodology used to develop policy options and explore their potential consequences. Individuals ("players") participating in a game are assigned to various "teams." Depending on the purposes of the game, the players can be drawn from the ranks of policymakers, scholars, or students, who can be expert, informed, or even ignorant of the policy issues under consideration. Each team represents a different important actor, such as a governmental agency, in the policy area under examination here, drug policy.

The course of the game for the players is directed by a referee team or "control team" that constructs the situations and guides the players. The game begins when the control team presents to the player teams a scenario of events leading up to the current situation. This is accompanied by a more detailed description of the current situation and a set of instructions about what to consider (a "tasking"). The player teams then adjourn to separate rooms to consider policy options. Discussions within the player teams—and, sometimes, among player teams through various message systems—result in each team's "move," or proposals for future policy over a given time horizon. The control team then takes the moves of each team and integrates the moves with the scenario to develop a new situation. In constructing the new current situation, the control team considers the feasibility of teams' policy proposals, the conflicts among proposals from different teams, and the consequences of implementing the policies selected.

A player team requires several hours to complete each cycle from presentation of a situation to the submission of the move. The control team then takes several more hours to adjudicate the teams' moves and construct a new situation for the next cycle. Two such cycles can be completed within a (slightly extended) working day. The process typically continues for between two and six cycles. Following the last cycle, the control team and player teams gather en masse in a final session to review the history of the game, clarify misunderstandings among the teams, and discuss the lessons learned from the game.

If the player and control teams have done their jobs properly, then all involved will have learned more about how to wrestle with the problems faced during the game. Because games force players to consider a particular situation, and because the various teams must

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1 For fuller descriptions of seminar gaming, see, for example, Jones (1985); Shubik (1972); Toth (1988a, 1988b).
consider the responses of other actors in formulating their move, games are more concrete, focused, and motivating than a seminar or conference. Ideas that can flourish in the abstraction of a speech or a research report may wither when exposed to the harsh conditions of a game's interactions. In addition, the role-playing aspect of games typically draws participants into the process more actively, and more vividly, than if they had merely read a memo or listened to briefings or speeches on the same subject (Kahan et al., 1987).

Seminar gaming methodology is better known for explorations of short-term problems of national security (e.g., international crises) than for exploring long-term domestic problems such as drug policy. Nonetheless, the methodology appears to be well suited to the goals of the DPRC. Gaming permits the exploration of complex problems involving many important actors, especially if the state of the relevant policy analysis is too primitive to allow extensive quantitative modeling. The methodology also has educational utility, as the players frequently find that exploring a problem in the context of a particular scenario leads them to understand the policy area more completely—or at least differently—than contemplating the issue in the abstract. Finally, gaming can build group cohesion among the players. During a game, individuals have an opportunity to exchange ideas, to discover one another's areas of expertise, and to find out about one another's personal style. After a game, individuals frequently find they have a useful, common reference point—the game's events—when discussing their current, more immediate research problems. Particular situations that arose in a game, or particular events or discussions that occurred, are recalled as shorthand, as illustration, or as metaphor relevant to a current discussion.

Seminar gaming methodology has important limitations. A gamed situation is necessarily an abstraction of the real world; nuances and complexities that might affect real-world decisionmaking and policy outcomes are consequently lost to the game. This fact requires the players to "suspend disbelief" during the course of the game and opens up any game outcome to second-guessing. Second, the complex interpersonal interactions that lead to the formulation of the moves make the games nonreplicable; gaming is therefore less suited to hypothesis testing than it is to hypothesis generation. Both of these limitations mean that the value of a game is often more what it reveals about the process of policy decisions than what it says about the substance of those decisions. A final limitation is that games are expensive. For games seriously exploring problems of real importance, players should be policy experts; obtaining their undistracted time for several days is logistically and

2That is not to say that games have not been used to study domestic issues. See, for example, Butler, Markulis, and Strang (1988); Powers and Boyle (1983); and Kuipers (1983). For a discussion of adapting political-military games to other purposes, see Jones (1986).
financially costly. In addition, the control team must spend a considerable amount of time designing the game.

WHY GAME DRUG POLICY?

Drug policy is, even by the standards of modern American government, a messy business. The major elements of policy—supply interdiction, law enforcement, prevention, and treatment—involves disparate bureaucracies with very different objectives and strategic orientations. The major actors—federal government, state and local government, educational institutions, medical institutions, families, and adult and young users—not only have different goals but also are often unable to communicate with each other to find out where common areas of interest might exist. To create a single, effective anti-drug policy out of these disparate elements, or to coordinate a multiplicity of such policies, is difficult indeed.

The task of creating and coordinating policies is made more difficult by uncertainties about the effects of various drug policies. Any decision by one actor will have consequences, often unforeseen or unknown, for the other actors. If police step up their arrests dramatically, will courts steer convicted users toward jail or treatment? If the President presses source countries to restrict supplies, will those countries respond by helping the United States or by defiantly making life easier for their citizen-producers? If street-level drug dealers find their supplies constricted and raise their prices, will users turn to different drugs, commit more crimes to support their purchases, or drop out of the drug scene altogether?

There appears to be little awareness in the drug policy community of how these interactions among actors determine the policies or their effects. Even where there is a recognition of the existence of such interactions, there is little knowledge of what they are likely to be. And until these interactions are better appreciated, they are unlikely to have the role they should in drug policy formulation.

A GAME OF LOCAL DRUG POLICY

A game cannot cover every area of possible interest to, or possible impact upon, drug policymakers. Game designers must therefore tailor the scope of a game to fit the particular resources—in terms of time, money, and personnel—that can be devoted to the game. If the resulting game cannot fulfill its purpose, the designers should either seek additional resources or give up their efforts.

Given our resource constraints, we decided to limit the scope of the game to consideration of
• governmental decisions
• involving local policy
• about illegal drugs.

In contrast, one might instead play a drug policy game that focused on decisions made in the private sector, or involved national policy, or focused on legal drugs such as alcohol or prescription medication.

We chose to focus on local policy because the DPRC as a whole has chosen local drug policy as the centerpoint of its initial research agenda (RAND, 1990; Reuter, et al. 1990). This choice not only enables us to better coordinate gaming efforts with the work of colleagues, but also makes it easier for us to obtain and use data sources to construct the game scenario and initial situation presented to the players. In addition, a game of local policy presents an interesting challenge because of the variety of drug problems that different communities face. Can we construct a “generic” game that could be useful for disparate communities within the United States? Finally, the potential audience for a game of local policy is larger than for a game of national policy; there are simply more local policymakers.

The focus on illegal drugs again follows the initial DPRC research agenda. Few policy options regarding legal substances are available at the local level; moreover, the popular conception of “the drug problem” is one that looks at illegal drugs.

The focus on governmental action is one of convenience. Most policymaking is governmental in form. That is not to deny that private corporate policies on drugs can have an effect, but to model those would require a great deal of additional effort. Our game will take into account the actions of private individuals and groups, but the primary policy options of interest remain governmental ones.

The limited scope of the game does not, we believe, prevent the game from achieving its purposes. Local governmental policy toward illegal drugs is in any event likely to be a significant part of any game eventually presented to actual policymakers, so developing material with this focus should make future games more educational and interesting. Local governmental policy toward illegal drugs also seems to be sufficiently interesting to engage the players and generate or modify research hypotheses, as well as provide a suitable vehicle for developing cohesion among DPRC researchers.
2. DESIGN

The design of a seminar game involves the consideration of a number of issues, including:

- **Substance and scenario.** What is the policy problem that the players will face? How will this problem be embedded in a scenario? What time frame will the game employ?
- **Behind the scenes.** How will the data driving the game be organized?
- **Structure and role of the teams.** How many player teams will there be, what will be their roles? What particular issues does the control team wish the player teams to address?
- **The logistics of play.** How many moves will each team make? How long will they have for each move? How will the player teams communicate with the control team and with each other?
- **Identity of the participants.** Who will play the game?

**SUBSTANCE AND SCENARIO**

For a game of local drug policy, we were faced with creating a situation that was flexible enough to generate innovative strategies, yet constrained enough so that real-world limitations would be heeded. Because we wanted players to address general policy issues instead of micro-level tactics, yet needed to have a realistic situation, we wanted a scenario that was not specific to any particular city, but still was based on the real problems of real cities. Because the drug problem is a chronic state—its manifestations appear day after day—rather than an acute crisis such as a military invasion or a political assassination, we wanted a problem that called for deliberation, yet led to action within some reasonable amount of time. And because the drug problem permeates a community, we wanted a problem that impinged on many sectors of the local government, yet did not require policy decisions on the state or federal level.

**Welcome to New Elsinore**

Our first step in constructing the scenario was to create the city of New Elsinore, the county seat of Jutland County, in the State of Franklin (see Fig. 1).
New Elsinore, with a population that placed it in the top 25 U.S. cities (see Fig. 2), was constructed by using statistical information from real cities.

"Hard" statistical data defining New Elsinore included information about its demographics, economic base, governance, schools, and health-care resources. More detailed information was presented for areas of particular concern to drug policy, such as law enforcement (New Elsinore Police Department and Jutland County Sheriff), courts, prisons and jails, drug treatment, and drug prevention.

The tale of the numbers was supplemented by a more down-to-earth view of New Elsinore in the form of print media articles about individual personalities and events. This
<table>
<thead>
<tr>
<th>POPULATION: DEMOGRAPHICS AND HOUSING</th>
<th>City</th>
<th>County</th>
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</thead>
<tbody>
<tr>
<td>Population (1986)</td>
<td>676,797</td>
<td>1,347,540</td>
</tr>
<tr>
<td>Population growth 1980–1989:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racial distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% White</td>
<td>67%</td>
<td>73%</td>
</tr>
<tr>
<td>% Black</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>% Asian</td>
<td>5%</td>
<td>5%</td>
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<tr>
<td>Percent males</td>
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<td>50%</td>
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<td>Age distribution</td>
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<td>&lt;15</td>
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<td>15 to 24</td>
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<tr>
<td>25 to 44</td>
<td>32%</td>
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<tr>
<td>45 to 64</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>&gt;65</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Household population</td>
<td>629,670</td>
<td>1,280,200</td>
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<tr>
<td>Households</td>
<td>248,881</td>
<td>496,202</td>
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<tr>
<td>Persons per household</td>
<td>2.53</td>
<td>2.58</td>
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<tr>
<td>Female-headed households</td>
<td>11%</td>
<td>10%</td>
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<tr>
<td>Total housing units</td>
<td>227,686</td>
<td>446,732</td>
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<tr>
<td>Owner occupied</td>
<td>49%</td>
<td>55%</td>
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<td>Median value</td>
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<td>$91,000</td>
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<tr>
<td>Public housing units</td>
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<td>13,000</td>
</tr>
<tr>
<td>Public housing residents</td>
<td>33,000</td>
<td>39,000</td>
</tr>
<tr>
<td>Births to teen mothers</td>
<td>1,529</td>
<td></td>
</tr>
<tr>
<td>Infant mortality rate (per 1000)</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Hospitals</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>Beds</td>
<td>4,465</td>
<td>8,000</td>
</tr>
<tr>
<td>% 12 years or more education</td>
<td>79%</td>
<td>78%</td>
</tr>
<tr>
<td>% 16 years or more education</td>
<td>24%</td>
<td>21%</td>
</tr>
<tr>
<td>Public school enrollment</td>
<td>235,411</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME AND EMPLOYMENT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita income</td>
<td>$11,766</td>
<td>$11,600</td>
</tr>
<tr>
<td>Median household income</td>
<td>$29,768</td>
<td>$29,928</td>
</tr>
<tr>
<td>% persons in poverty</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>% families in poverty</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Civilian labor force</td>
<td>321,567</td>
<td>679,378</td>
</tr>
<tr>
<td>% population 15 to 65</td>
<td>72%</td>
<td></td>
</tr>
<tr>
<td>% employed in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>Retail trade</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Finance, insurance, real estate</td>
<td>na</td>
<td>8%</td>
</tr>
<tr>
<td>Services</td>
<td>21%</td>
<td>30%</td>
</tr>
<tr>
<td>Government</td>
<td>2%</td>
<td>18%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>16,078</td>
<td>33,919</td>
</tr>
<tr>
<td>Percent of labor force</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Percent of earnings from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Retail trade</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Finance, insurance, real estate</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>29%</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2—Illustrative Statistics of New Elsinore
view portrayed New Elsinore as a metropolitan area with a significant and increasing drug problem.

Game designers have the option of preparing materials for use during a game to encourage players to consider particular substantive issues. In Game 1, the game materials did not have any particular focus, as we desired the course of play to be determined by the player teams' decisions rather than our pre-existing interests. Game 2 was more focused, directing player attention to aspects of the drug problem that would require the various player teams to better coordinate their efforts.

**Motivating the Game**

The scenario materials provided a picture of a city with a drug problem, but lacked a motivation for action. We provided this by creating a precipitating incident in the form of a drug-related killing of a 10-year-old bystander in a drug-infested neighborhood. Two additional aspects of this killing made it even more prominent: first, it was the 100th murder (by early July) in New Elsinore that year; and second, the killer, a drug dealer, was himself only 10 years old.

In response to this incident, the mayor of New Elsinore gave a speech before the Chamber of Commerce setting forth his outrage, as well as his general philosophy of deep but reasoned concern about the city's drug problem. The speech announced the formation of a Mayor's Council Against Drugs, composed of separate task forces with membership drawn from a wide variety of governmental agencies concerned with the drug problem. Each task force was charged with making recommendations to the mayor as to drug policy for the New Elsinore metropolitan area during the next six to 12 months. The mayor stated that the task forces were to make sure that they kept in mind how to generate any additional revenues needed to implement their proposals, and that they formulate a set of solutions that would not founder on the resistance of governmental bureaucracies.

**Initial Presentation Materials**

The information provided to the players at the beginning of the game was in three forms. First, maps and graphical displays were shown to provide an overview of New Elsinore and its drug problem. These were shown on overhead transparencies and discussed; paper copies were also distributed to the players. Second, we provided copies of the mayor's speech and a set of media articles centered around the precipitating incident; several other articles fleshed out the general drug problem in New Elsinore. Finally, we provided for
all players the New Elsinore Almanac, a compendium of tables of statistical information about the city.

After presenting the materials common to each player team, we gave each team individually its "tasking" or list of topics it was to consider in creating a move. The players then began deliberations.

**During Deliberations**

Player teams often requested information of the control team during their deliberations. The control team incorporated people expert in various aspects of drug policy to reply to these information requests. If the information was available in the New Elsinore Almanac or easily derived from that source, we referred the players to the information they already had. If, in Game 2, we could generate the information from our underlying data (see below), we did so. If the information request appeared reasonable but we did not have a ready answer, the control team, led by the appropriate expert, generated a response. If the request was not for information that a team might be expected to have, or if it was not possible to produce the information in a short amount of time, the request for information was denied.¹

**Later Cycles of Play**

At the beginning of each cycle of play after the first, we presented new materials individually to each team. These materials included an overall description of events in New Elsinore since the previous move, a general summary of the moves of each team, and a detailed account, for each team separately, of the policy actions and consequences of its own move. Updated versions of the graphical and tabular displays presented at the beginning of the game were provided. Finally, players were provided with a revised tasking for the next cycle.

**BEHIND THE SCENES**

A considerable part of the control teams' effort is never directly seen by the player teams. This effort involves constructing the parts of the scenario behind the materials delivered to the players. Before the game started, we had a library of news articles for anecdotal materials, a database to describe New Elsinore, and, for Game 2, a spreadsheet model to track individuals through the drug treatment and criminal justice systems.

¹A principal reason for ending the game with a discussion session attended by all participants is to permit player teams to vent their frustration at what they perceive as control team wrongheadedness and/or intransigence in information supply.
Anecdotal Materials

The anecdotal materials were in the form of news articles, mostly from the New Elsinore Herald, the mainstream newspaper, and the New Elsinore Spark, a minority community newspaper. Each article was one page or less in length and dealt with a single topic; many were editorials rather than reportage. These articles were derived from real stories culled from U.S. newspapers and news magazines, adapted to fit New Elsinore.

The articles were coded by their content and assembled into a library. A set of articles was selected for presentation at the beginning of the game; for later cycles, we selected stories from the library that fit the evolving situation in New Elsinore.

Table 1 presents our content categorization. As the table shows, the categorization sorts articles by type of drug activity, by actor (individual and organization), by particular substance, and by the nature of the drug activity. The content analysis is maintained on a spreadsheet program, which greatly facilitates access and updating.

The New Elsinore Almanac and Other Information

Earlier, we mentioned the New Elsinore Almanac as a set of statistical information provided to the players. The statistical information so presented was generated from a spreadsheet—which we call the almanac database—containing basic information about New Elsinore, its demographics, its criminal justice system, and its drug problem.

For Game 1, we created a fictitious city by using Washington, D.C., for drug and crime characteristics and Memphis, Tennessee, for demographic characteristics. Memphis was selected because it is comparable in size to Washington, yet does not have the unique demographic and employment characteristics of the District of Columbia. Information for Washington was drawn from DPRC work (Reuter et al., 1988), whereas Memphis information came from standard federal statistical sources (U.S. Bureau of the Census, 1988).

For Game 2, we used San Diego, California, modifying the County and City Data Book and drug data in several significant ways to disguise its identity. The disguises were in the form of reducing the population (and all population-related statistics) by one-third so that the city would not be one of the top 10 nationwide in population, exchanging the Black and Hispanic population percentages so that the city would not be identifiable as in the Southwest, and exchanging the cocaine and amphetamine statistics so that the city would
Table 1
Content Coding of News Articles

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>E/I</td>
<td>x</td>
<td>Enforcement or interdiction activity (x = yes)</td>
</tr>
<tr>
<td>T/P</td>
<td>x</td>
<td>Treatment or prevention activity (x = yes)</td>
</tr>
<tr>
<td>U/D</td>
<td>x</td>
<td>Activity by users or dealers (x = yes)</td>
</tr>
<tr>
<td>Actor</td>
<td></td>
<td>Actors in story (up to 5; blank not allowed)</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Drug dealer or manufacturer</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>Private group of citizens (e.g., church, vigilante)</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>Health individual or group</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>Individual private citizen (e.g., housewife)</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Legal system (other than police) (e.g., judges, prosecutors)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Municipal government official or group</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Nonmunicipal government official or group</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>Police or other law enforcement</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>Religious person or group</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>Education person or group</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Treatment or prevention person or group</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>Drug consumer or relative of consumer</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>Media person or group</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>Workplace (private sector) person or group</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Drug policy expert or group</td>
</tr>
<tr>
<td>Inst</td>
<td></td>
<td>Institutions involved in story (up to 5 or blank)</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>Citizen group (e.g., vigilante)</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>Health institution (not primarily treatment or prevention)</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>Legal system (other than police) (e.g., judges, prosecutors)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Municipal government</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>Nonmunicipal government</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>Police or other law enforcement</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>Religious institution</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Treatment or prevention facility or institution</td>
</tr>
<tr>
<td></td>
<td>V</td>
<td>Media (as a public institution)</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>Workplace or other private sector organization</td>
</tr>
<tr>
<td>Demog</td>
<td></td>
<td>Demographic group (up to 5 or blank)</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Children</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>Elderly</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>Infants</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Minorities</td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>Poor</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Teen-agers and youth</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>Women</td>
</tr>
<tr>
<td>Subst</td>
<td></td>
<td>Substance abused (up to 5 or blank)</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Alcohol</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Cocaine, other than crack</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Downers</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>Heroin</td>
</tr>
<tr>
<td></td>
<td>K</td>
<td>Crack</td>
</tr>
</tbody>
</table>
Table 1—continued

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Marijuana or hashish</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>Anything else</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Polydope use</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Synthetic drug such as PCP or MDMA</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Tobacco</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>Uppers</td>
<td></td>
</tr>
<tr>
<td>Activ</td>
<td>Drug-related activity (up to 5 or blank)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Criminal or crime-related activity</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Effects of consumption (other than illness or death)</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Illness as a result of or concomitant with drug consumption</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Production or importation</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>Retail sales</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Educational activity (other than prevention or treatment)</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Treatment or prevention activity</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>Act of consumption</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Wholesale sales</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Drug testing activity</td>
<td></td>
</tr>
<tr>
<td>Crime</td>
<td>Criminal activity (if C is coded for Activ) (up to 5 or blank)</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Drug-related arrest</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Burglary or other drug-related street crime</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Criminality of drugs (as opposed to other crimes)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Driving under the influence (of anything)</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Gang activity</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Drug-related murder</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>Seizure of assets involved in drug activity</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>Seizure of drugs themselves</td>
<td></td>
</tr>
<tr>
<td>$$</td>
<td>Having to do with the price of drugs (x = yes)</td>
<td></td>
</tr>
<tr>
<td>LE</td>
<td>Having to do with legal issues (x = yes)</td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>Having to do with the media (x = yes)</td>
<td></td>
</tr>
<tr>
<td>PO</td>
<td>Having to do with public opinion (x = yes)</td>
<td></td>
</tr>
<tr>
<td>SI</td>
<td>Having to do with larger social issues (x = yes)</td>
<td></td>
</tr>
</tbody>
</table>

not be identifiable as San Diego. Information about the criminal justice and drug systems in San Diego came from a number of statistical sources, including the San Diego data from:

- DAWN (Drug Abuse Warning Network) emergency room drug mention maintained by the National Institute on Drug Abuse;
- DUF (Drug Use Forecasting) arrestee database maintained by the National Institute of Justice;

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2Players did not find our artificially constructed cities to be unrealistic. When the method of construction was told them, they grasped what was done and did not criticize the decision. In neither game was a single player able to correctly identify a source city.
• UCR (Uniform Crime Reports) database maintained by the Federal Bureau of Investigation;
• CAL-DADS (California Drug Abuse Data System), maintained by the California Department of Alcohol and Drug Programs.

All of these data were incorporated into the almanac database, from which tables and charts were drawn. The database was arranged so that new information could be entered as a result of player moves, and the tables and charts easily updated.

Tracking People Through the Drug Treatment and Criminal Justice Systems

We constructed for Game 2 a spreadsheet model—which we call the Drug User Tracer (DUT)—to help the control team adjudicate player moves, in particular those aspects of player moves involving quantitative relationships within the drug treatment and criminal justice systems. Data from the almanac database was entered into DUT, and output from DUT was sent back to the almanac database. The DUT model, in its present form, basically acts as an accountant, tracking the movement of people through the treatment and criminal justice systems and compiling the dollar costs of that movement. Decisions about the effects of policy on the variables that drive the model are made either explicitly by the player teams or by the control team.

DUT tracks people through the drug treatment and criminal justice systems, beginning when individuals enter the system and ending with a result of their interaction with the system. Figure 3 shows a top-level flow description of the model. The entry point for the criminal justice system is an arrest, whereas entry to the drug treatment system may be either an arrest (for criminal justice referrals) or a noncriminal justice referral (social service agency or walk-in). Outcomes are in terms of individuals in the system, such as subsequent crimes and/or drug activity, and in terms of the costs to the system.

DUT has two modules. The first tracks entry to both systems and outcomes from the drug treatment system. The second module tracks criminal justice system outcomes. We refer to these two modules respectively as the treatment (TM) module and the criminal sanctions (CS) module. The former was built from scratch under DPRC auspices, whereas the latter is an adaptation of the RAND Intermediate-Sanction Cost Estimation Model (Greenwood et al, 1989).³

³We thank Peter Rydell for sharing this model and teaching us how to use it.
The TM Module. For noncriminal justice system referrals, DUT allows some number of new referrals a year for up to three types of referrals (emergency rooms, walk-ins, and social service agencies)\(^4\) and up to four types of drugs (heroin, cocaine, amphetamines, and other). Each drug and referral type has associated with it a proportion of assignment to each of five treatment modalities (methadone maintenance, detoxification, other in-patient (e.g., therapeutic community), out-patient drug free, and an unused fifth category). These referrals and assignments generate treatment candidates for each of the drug treatment modalities.

For criminal justice system referrals to drug treatment, DUT starts with all arrests for the year. Arrestees are classified according to the crime committed and the type of drug involved if any. Crimes are non-drug-related or drug-related; drug-related crimes are further divided between serious drug crimes (including violent crimes while using drugs, drug dealing, or felony drug possession) and lesser drug crimes (nonviolent crimes while using drugs or misdemeanor drug crimes); and both categories of drug-related crimes are further

\(^4\)The categories named in parentheses are the ones employed in Game 2; alternative category labels are easily defined for use by the model.
classified by up to four types of drugs (the same types as above). Parameters are included for a variety of possible actions following arrest. Conviction rates following arrest are specified for each crime category (whether non-drug-related crime, serious drug-related, or lesser drug-related crime) and type of drug for drug-related crimes. For drug-related arrests, there is also a parameter giving the proportion diverted to a drug treatment program in lieu of prosecution or sentencing, by type of drug-related crime and type of drug and treatment modality assigned. Most of these treatment diversions are to brief counseling or educational sessions rather than actual drug treatment programs, but a small proportion of the diversions join the noncriminal justice system referrals discussed above as candidates for drug treatment programs. They are still tagged, however, as criminal justice system referrals.

For individuals convicted of a crime, a different set of parameters determines subsequent events. Those convicted of a non-drug-related crime are sentenced to prison and/or parole, jail and/or probation, or are released without any sanction; all three groups are further tracked in the CS module of the model, but they do not enter the drug treatment system.\footnote{If incarceration rates were to greatly exceed the stated capacity of New Elsinore/Franklin institutions, the control team would have to decide how to deal with that problem. This particular complication did not emerge in the two pilot games.}

For those convicted of a drug-related crime, parameters are included for proportion sentenced to jail/probation or prison/parole with drug treatment as a condition of probation or parole (the condition can further specify whether the required treatment is in- or outpatient), by type of drug-related crime and type of drug. Some proportion can be released without any sanction, as was the case for non-drug-related crimes. Those sentenced are tracked in the CS module regarding costs and later crimes. Those with treatment assignments as a condition of probation or parole also enter the drug treatment system as additional criminal justice system referrals, and become a third set of treatment candidates.

Additional parameters affecting the drug treatment system include treatment capacity by treatment modality, the waiting list at the beginning of the year for each treatment modality, the proportion of users leaving a waiting list before starting drug treatment (affected by the expected wait and whether the referral is criminal justice or noncriminal justice), for those not leaving the waiting list the proportion of users completing a treatment program (with separate parameters for criminal justice and noncriminal justice referrals), and for those completing a treatment program the proportion of clients who successfully completed treatment. Success is defined here as either no drug use or substantially less drug
use for at least a year following treatment. Treatment capacity for each treatment modality is the product of the number of treatment slots for that modality and the number of people who can be served per year by one slot (the reciprocal of the average treatment time in that modality).

The three sets of treatment candidates (noncriminal justice system referrals, those assigned to treatment in lieu of prosecution or sentencing, and those assigned to treatment as a condition of probation or parole) together constitute the new entrants for the year to the treatment system. The new entrants and the waiting list at the beginning of the year form the total potential waiting list during the year. Parameters mentioned above determine how many of them stay on the waiting list until they are able to start a treatment program, how many complete that treatment, and how many are successfully treated, by type of referral and type of drug.

Any of the parameters in the TM module of DUT can be reset during the game play by player moves. Thus, arrest data, conviction and sentencing rates, treatment diversions, rates for probation with drug treatment, and treatment capacities are all potential game parameters that the controllers can adjust. Other player actions can affect waiting list attrition or treatment completion or success rates. Players can also set priorities for treatment, so that certain defined groups have a relatively short expected waiting time for receiving treatment, thus reducing the attrition rates for those groups (groups defined by type of drug involved, or whether criminal justice or noncriminal justice referral).

The CS Module. The CS module is based on RISCEM, which is described in Greenwood et al. (1989). RISCEM tracks people following conviction of a crime using the following categories: prison/parole, jail/probation, jail with intensively supervised probation, and no sanction; we altered RISCEM for our own purposes by redefining categories and resetting parameters.

The CS module of our model in all cases starts with an arrest. For non-drug-related arrests, the categories are: prison/parole, conviction but no criminal sanction, jail/probation, and no conviction. For both serious and lesser drug-related arrests, the categories are: sentenced to jail and/or probation or prison and/or parole without a requirement for drug treatment, sentenced to jail and/or probation or prison and/or parole with treatment as a condition of probation or parole, diversion to treatment, and released (either not convicted or convicted but given no criminal sanction).6

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6The model in its present version has no memory of convicts' prior records; each arrest is treated the same.
Each cycle in the game required three runs of the CS module, one each for non-drug-related crimes, serious drug-related crimes, and lesser drug-related crimes, with the categories or parameters changed for each type of crime. For each of the three types of crime, we used modifications of three of RISCEM’s output tables: cumulative crimes committed per person arrested, cumulative total cost per person arrested, and cumulative recidivism (percent who fail). These tables show, cumulatively by year, the number of subsequent crimes committed by type of crime and action (listed above) following arrest, criminal justice system costs and new crime costs by type of crime and action following arrest, and percent who commit new crimes or otherwise violate terms of their parole or probation by type of crime and action following arrest.

STRUCTURE AND ROLE OF THE TEAMS

The number and identities of the player teams involved in a game crucially determine the overall course of the game. Most political-military seminar games have two player teams (e.g., NATO and the Warsaw Pact), representing the main adversaries in a threatened war (e.g., conflict over the breakup of Yugoslavia). We viewed the drug policy problem, within our self-imposed constraints of local governmental policy about illegal drugs, as more diffuse and less strictly competitive than the typical political-military game. Drug policy, even for different agencies such as the police and treatment programs, has a common goal of eliminating drug abuse; the problem is one of coordination and reconciliation of viewpoints and efforts. A game addressing this problem should have at least three actors (Kahan and Rapoport, 1984); given our resource constraints, three player teams seemed to be the most that the control team could comfortably monitor and assist.7

Team Roles

In light of the game’s focus on local drug policy and our desire to provide a team structure that allowed for interaction among groups, we gave the player teams the role of task force within the mayor’s Council Against Drugs. For Game 1, these task forces were labeled enforcement and treatment and prevention; for Game 2, they were called police, courts & corrections, and treatment. In addition, we had a third team for Game 1 labeled dealers, with opposed interests to both of the other teams.

The enforcement team in Game 1 was designed to focus on supply-side solutions to the drug problem. This team took the role of police, prosecutors, courts, and corrections officials

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7When the decisions of additional actors (e.g., users or the private sector) would be important, the control team represents them.
and included both local governmental agencies and those components of federal officials (e.g., the local U.S. attorney) that played analogous roles. The treatment and prevention team was designed to look at demand-side solutions, and took the role of health care professionals, educators, and others concerned with the prevention of illegal drug use and the treatment of illegal drug users. The dealer team took the role of local drug dealers; although we did not specify it, the team naturally played the wholesale dealers, not the retailers.

Among the lessons learned from Game 1 was that prevention and treatment work on different time scales, and so were difficult to accommodate within a single game, much less a single team. Therefore, the demand-side team for Game 2 focused strictly on treatment problems. The enforcement team in Game 1 had concentrated on police activities, to the general neglect of courts and corrections. Therefore, we split that team into two teams for Game 2. Finally, the dealer team, while a lot of fun for its participants, was felt to better serve the game as an adjunct to control rather than as a stand-alone player team, and so was not part of Game 2.

**Player Team Structure**

We conceived of the roles of the player teams as jointly exhausting the governmental actors with line responsibility for drug policy, but the control team retained the role of the highest levels of local political authority (e.g., the mayor). The control team also took the role of drug users in determining the success of player teams' initiatives and the role of drug dealers in Game 2 in determining the effect of attempts to manipulate drug supply.

Attempting to focus the players' initial efforts, we informed each of the task force teams that they had been asked by the mayor to propose how to conduct local drug policy in their respective areas for the next six to 12 months. We also presented the dealer team in Game 1 with indications that various enforcement initiatives undertaken in previous months were having a negative impact on their interests. Otherwise, none of the teams received guidance to consider particular issues in depth.

Within each team, we did not ask the players to take on specific subroles. We did not, for example, appoint one person on the enforcement team as the local police chief and another enforcement team member as the local district attorney. Such intra-team roleplaying is of course possible, but we felt that the extra burdens of producing the relevant information outweighed possible benefits, especially since we wanted to encourage the players to think broadly about drug policy rather than zero in on particular bureaucratic interests or obstacles. We did, however, tell the players that their proposals would need to be
implemented in the real world, and that they should therefore all keep in mind financial, bureaucratic, and political obstacles to their suggestions.

THE LOGISTICS OF PLAY

Game logistics are not to be taken lightly. The motivation of the players can be severely diminished if they believe the game causes them to feel uncomfortable, overworked, or harassed by time pressure. Even basic things such as creature comforts and refreshments for the players cannot be neglected without peril. Communications between the control and player teams and among the player teams must be as painless as possible.

The Game Calendar

Such basic considerations as the number of moves each team will make, the amount of time for each move, and the amount of time between moves must be planned in advance.

The general wisdom in seminar games is that two moves per day are about the maximum that can be reasonably accommodated. We believed that we could not easily obtain player commitments to more than three days for the game. Moreover, there are diminishing returns to players and controllers alike from multiple cycles of play; unless the game situation changes drastically over time, the lessons to be learned come relatively quickly. Therefore, we limited ourselves to three move cycles in each game.

On the first day, we devoted the entire morning to an introduction of the game and the afternoon to the first move. This introductory session consisted of an overview of the logistics of play, a short briefing on gaming for players (the majority) not familiar with gaming, and a presentation of the scenario, the initial situation, and accompanying information. Following lunch, players had four hours for the first cycle, culminating in the first move. That evening (well past midnight), the control team analyzed the first move and prepared materials for the second cycle.

Following breakfast, the morning of the second day was devoted to the second cycle, with three hours allotted for this phase. During the early afternoon, the player teams had time to relax, while the control team worked to analyze the second move and provide materials for the third cycle. In the late afternoon of the second day, the players had three

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8If an objective of a game is to examine the effects of discomfort, then these feelings might be deliberately induced. This, however, was not the case in our games.

9In Game 1, the control team had only three hours for this turnaround and was overwhelmed; for Game 2, turnaround time was expanded to five hours, but the control team was still pressed. With experience, though, the five-hour interval should suffice.
hours for the third cycle; that evening, the control team prepared feedback from the third move and formulated discussion points for the next morning's meeting.

The morning of the third day was devoted to the post-game discussion. The game directors summarized the three game moves, the team captains summarized their experiences, and all participants discussed substantive (drug policy) and procedural (gaming) lessons learned from the experience. The session ended in time for the East Coast participants to catch an early afternoon flight home.

Communication Flow

Game designers must decide how information will flow between the control and player teams and among the various player teams. There is an inherent stress between the desire for completely open communications and the research need to record the proceedings of the game. While an “ideal” solution would be to permit open communications among players or teams and simply record the discussions, the path of seminar gaming is littered with mounds of tapes of gaming interactions that have never been heard, much less transcribed or coded.

Our communication design was centered around a person called a “communicator” who was a member of the control team assigned to each player team. The communicator had two primary roles. The first was to operate a computer terminal and transmit all requests for information and clarification to the game directors via electronic mail. The second was to take notes on the deliberations of the player team. The communicator, although a member of the control team, was not empowered to make any control decisions.

The electronic mail format for requests from the player team to the control team, although a little cumbersome to those unfamiliar with its use, provided several advantages. First, the written format of electronic mail forced the player teams to be precise in their requests for information from the control team. Second, the format automatically produced a trail of questions and answers that could be used in later analysis of the game.

Because we were interested in the interrelationship of different policy areas, we informed the player teams that they could communicate with one another during each turn (discussion and deliberation period). Communications could either be via electronic mail or face-to-face. Electronic messages to another player team were sent to control, which in turn forwarded the message to the appropriate team(s). Face-to-face meetings were arranged by the control team. One representative from each player team would meet in the presence of a control team member. In Game 1, there were no communications among player teams before the third move, and then only via electronic mail. In Game 2, there were face-to-face meetings on every move.
Because of some misunderstandings during Game 1, the control team met with each player team captain at the end of each cycle in Game 2 for a "debriefing meeting." In this meeting, the captain explained the rationale for the move and the control team ensured that it understood the move. Contingencies implied but not expressed by the move paper were also discussed, to help ensure that control adjudications would be responsive to player team intent.

IDENTITY OF THE PARTICIPANTS

Appendix A provides the names of the participants in the first two DPRC games, with affiliations listed for purposes of identification only.

Game 1

For Game 1, we wanted a private but critical audience, so that we could obtain frank, informal comments on the game. We accomplished this by having RAND DPRC colleagues as players. Players were assigned to teams according to their research interests and our perceptions of how well they would play together. We attempted to have people engaged in joint projects play on different teams, and for each team to have a blend of youth and experience.

Using DPRC researchers as players also contributed to the cohesiveness of the center. The DPRC is a new institution and many of its researchers have not previously worked together but can be expected to do so in the future. The intensive interaction of the gaming environment brought the players together more quickly than could happen by attendance at seminars and the other more traditional ways colleagues get to know each other.

The control team for Game 1 consisted of the two co-game directors, three communicators to sit with the player teams during their deliberations, and a drug policy subject matter expert. We found that this was a bare minimum, and that more controllers would have been desirable.

Game 2

For Game 2, we desired a wider audience representing different parts of the drug policy world, and so cast a wider net in recruiting players. Four players were RAND staff who had not participated in Game 1. Three others were from government, including two agency executives from Washington, D.C., and a local Superior Court judge. Three players were members of the DPRC Advisory Board and one player represented a foundation sponsoring the DPRC. The remaining four players were drug policy experts affiliated with universities.
Team rosters were composed by distributing people so that the teams were heterogeneous with respect to their primary employment. We assigned the small number of players who had hands-on experience in making drug policy to teams concordant with their expertise.\textsuperscript{10} Again, we attempted to judiciously blend youth and experience.

For Game 2, the control team was expanded considerably. In addition to the two game designers and three communicators from Game 1, we added two data analyzers, three RAND subject matter experts, and two support staff. This augmented staff was better able to manage the duties of the control team.

\textsuperscript{10}In future games in which more players have policy experience, we intend to assign some players to roles different from their everyday experiences.
3. LESSONS LEARNED

One can expect the first two games in a multi-game series to be more valuable for the insights that they provide for conducting further games in the series than for the policy area under examination. Seminar games are, after all, complex exercises, and some fine tuning—often even some coarse tuning—is usually necessary for them to run smoothly. Our conclusions therefore center on the game itself, both in terms of its benefit to the players and its overall functioning.

In addition, of course, we would like the games to tell us something about the world of local drug policy. Here, our conclusions must be much more tentative; not only is gaming the problem a novel methodology, but the games discussed here occurred within a new institution (the DPRC) conducting research in an area where much is unknown. We therefore lack the underlying data to make many credible translations from the policies and results in the game to results in the real world flowing from the same policies. Nonetheless, the games did reveal some interesting conjectures about how communities can effectively address their drug problems. Appendix B presents, for the interested reader, a synopsis of the course of the two games.

Our analysis below of the games is in three parts: lessons about the experience of the players; lessons about conducting drug policy games, so that we can improve our performance in future series; and lessons about local drug problems, which are primarily in the form of research hypotheses.

LESSONS LEARNED FOR PLAYERS

The first and most welcome lesson learned is that it is possible to conduct seminar games of local drug policy. We were able to convene researchers and policymakers unfamiliar with games but familiar with community drug problems, teach them quickly how to play a seminar game, and provide them with what they reported to be an engaging and meaningful experience. Almost all of the players commented that they believed that participating in the game was worthwhile and that their understanding of the problems of controlling drug abuse at the community level had increased.

Benefits for the Players

The final discussion session, as well as subsequent communications with the players, revealed that the game can benefit players for several different reasons, depending in part on
who is playing the game. For the drug policy researcher, the game provides an opportunity to deal with a drug problem in a “hands-on” manner that is very different from normal academic intercourse; one of our players commented that participation in something like our game was almost necessary before somebody who had not dealt first-hand with front-line local drug problems could fully comprehend the problems of policymakers and meaningfully converse with them.

For the community drug policymakers or worker, the game provides an opportunity to test strategies that are technically and financially feasible, but for political or other reasons not possible in the “real world.” The game provides the player with a simulated reaction to that strategy, which is more informative than any debate about its value. For these players, the game also provides an opportunity to separate the issues regarding drug policy from the normal interpersonal processes that are an inevitable part of any human system. That is, while in the community the development and implementation of policy will be in part based on the power and interpersonal relationships among the actors, in the game these factors can be reduced, so that the effects of policy and goal differences among the different community agencies predominate. In such an environment, community actors can learn which impediments to their objectives are interpersonal or bureaucratic in nature and which are part of the policies themselves.

For all players, the game provides an opportunity to examine closely the reasons why things happened. In the real world, policy decisions and their consequent events are separated by time, and in that intervening time, new problems arise that occupy policymakers’ attention. It is, therefore, rare that policymakers can examine the causes and consequences of their policymaking. The game’s Hot Wash provides an explicit opportunity for such an examination—each of the player teams can provide their interpretation of the events, the reasons for their policies, and their perceptions of the other players’ actions and motivations.

Adapting the Game to Better Benefit the Players

Our two pilot games have caused us to reconsider several issues involving community actors, to provide the best benefit to them. First, we originally intended having community actors play a game based on their own community. That is, if people from, say, Newark played the game, we would enter information from Newark into our spreadsheets and the DUT model and would play the game as “Newark.” Upon reconsideration, though, we will continue to use “New Elsinore” as the game community, altering the demographic and drug characteristics of New Elsinore to present a community with problems similar to those of the
players' community. This will help the players get beyond the local bureaucratic and interpersonal characteristics of their community to address drug policy directly. It will also assist players to consider the community's drug policy strategy, rather than get bogged down in the day-to-day tactics that occupy their workaday lives.

Second, we will have at least some players play roles that do not correspond to their everyday jobs. For example, some police department players will be on a police or enforcement team, but others will be on a treatment or prevention team. One benefit of this technique is that players will be dealing with people other than their normal workmates, reducing interpersonal effects. But the larger benefit is that the cross-role players, by virtue of being given tasks whose success depends on factors they may not have previously considered, will be forced to consider drug issues from a different perspective from their normal one.

Third, we will consider, when circumstances permit, having players from different communities play a common game. This will enhance even further the benefits of cross-role play. In addition, players will better realize as they work through the issues of New Elsinore what is unique and what is common about the drug issues in their own communities.

In future plays of the game the composition of teams will be in large part dictated by the objectives of that play. For example, if interagency communication or the study of policy debates is a major focus, then cross-role player assignments will be made. If, on the other hand, a major focus of the game is the decisionmaking processes within agencies, then team players will all be from the same agency.

LESSONS LEARNED FOR CONDUCTING DRUG POLICY GAMES

A game of local drug policy is an extension of traditional political-military seminar games in a number of ways. The first two runs of the game proved that while some of our adaptations to the requirements of this type of game were reasonably successful, there remained many issues to be explored and room for the game to improve.

Number and Roles of Player Teams

In our first game, we constructed three teams, representing dealers, the enforcement community, and the treatment and prevention communities. The choice of number of teams was based on feasibility—more teams mean a better possible division of issues, but too many teams result in the control team being overwhelmed. The choice of team roles was based on a natural separation of the drug world into two opposing camps ("pro-drugs" and "anti-drugs")
and then further subdividing the “anti-drug” camp into supply-side and demand-side, respectively.

In retrospect, the number of teams seems about right. The complex nature of the drug world means that a game consisting of just two opposing camps is too simplistic; on the other hand, extending much beyond three teams would over-stress an already very busy control team.

The team roles for the first game, however, were not optimally chosen. The dealer team pretty much ignored the treatment and prevention team, formed an implicit coalition with the enforcement team to let each other alone, and then spent the rest of its time having fun designing new and creative ways to better sell drugs. It proved difficult for the control team to create a tasking for the dealer team that would occupy its attention and force it to pay attention to the scenario data. The enforcement team became largely a police team, tending to ignore the policy problems faced by the court system and corrections systems. And the treatment and prevention team, after choosing to focus its energies on prevention, found itself playing essentially a one-team game, playing prevention strategies against the control team and not interacting with the other player teams.

In the second game, we attempted to bring the teams closer together by eliminating the dealer team, dividing the enforcement team into police and courts & corrections units, and eliminating prevention from the purview of the treatment team. Our taskings to the teams attempted to provide them with a common area of concern—the treatment of criminal justice system drug abusers. This attempt was partially successful. The treatment team and courts & corrections team (mis)communicated with each other on this issue, resulting in some emotion that was processed at the final discussion session. The police team, however, remained relatively apart, concentrating more on stopping the drug trade than managing drug-abusing arrestees.

In future games, we will continue with three player teams, employing roles corresponding to the drug issues facing the community playing the game. Adjustments to make the teams interact more will come from the scenario and structure of the game, not the number and roles of the teams.

**Presenting Scenario**

On the surface, the presenting scenario was successful. New Elsinore was a credible city with a credible drug problem. Players did not question the details of the city, the story

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1We have no desire to design games to eliminate miscommunication; on the contrary, the resolution of miscommunication can be a major benefit from a game.
line, or the statistics. When asked to guess which cities provided the prototype for New Elsinore, players produced a wide range of responses, covering the entire nation. However, the scenario could be improved in two matters: (1) responsibility for policy implementation and (2) ability to provide guidance to the players in performing their tasks.

**Responsibility for Decisionmaking.** The teams were told that they were commissions advising the mayor, yet the mayor, after creating the commissions, essentially ceased to exist. Consequently, there was a lack of central authority. The control team, which could have assumed the role of the mayor, was too passive in this regard, so the teams never felt the pressure of a central authority to produce useful results. This could have caused incentives to concentrate on their own constituent problems to the exclusion of the larger picture. In the future, this problem can be solved by more specific instructions from the control team about what move statements should address and a stronger representation of the mayor's role.

Alternatively, we could create a fourth player team called an “Executive Team” to play the mayor and other executive authority. This team would meet after the other teams had completed moves to consider and choose among policy recommendations from the other teams. The role of the control team would be to ensure an interface between the executive and other teams and to translate the policy decisions of the executive team into new situations and new taskings for the other teams.

**Guidance for Players.** One difference between a game of drug policy and the typical political-military game is that the latter typically uses a dramatic event with immediate consequences to begin the game. So, for example, a European game might begin with the president of Yugoslavia being assassinated and different countries making claims on pieces of that fragmented country. In a Southwest Asia game, Iraq might invade Kuwait. The point is that the players must decide on immediate action. The team must answer such questions as (1) should we act unilaterally? (2) should troops be sent in? (3) what diplomatic steps should be taken?

For the world of drug problems, there is rarely such a compelling event—a crisis in the fullest sense of the term. An election might center on drug issues, a large drug bust might occur, or other events might bring the drug problem to public attention, but there is almost never a triggering event that causes the entire army of troops fighting the drug war to spring into coordinated action.

Our device to motivate action was to create a quasi-crisis. The 100th murder of the year in New Elsinore was that of an innocent 10-year-old boy caught in a drug shootout. Moreover, his killer was himself only 10 years old, but a drug dealer. This event, which
shocked the city, caused the mayor to convene special commissions with wide-ranging mandates to advise him how to solve the drug problem. Our player teams were these commissions.

In retrospect, the device worked only moderately well. The event was successful in creating a credible reason for the commissions/teams to exist, but it was not sufficiently well-connected to the tasks the teams had to perform. Our solution to this problem will be to be more explicit in the mayor's charge to the teams. The taskings will have explicit things each team must consider, and the team moves will be policy recommendations in a specific format for each recommendation:

- The policy recommendation, in summary and in detail
- How the recommendation differs from the status quo
- The rationale for the recommendation
- How the recommendation will be resourced
- The benefits expected from the recommendation
- What criteria could be used in determining, later, whether the policy was successful.

The Mechanics of the Game

We found that the mechanics of the game were successfully designed and implemented. The control team's resolution of the moves was sufficiently plausible and sensitive to the efforts of the player teams that the control team retained its authority. The group's cohesiveness apparently increased. The inter-team discussions were generally informative and harmonious. The control team's responses to the player teams' questions were typically (but not always) of sufficient depth and timeliness.

We believe that one reason the game ran relatively well was our use of "communicators" who attended all player sessions. The communicators had two functions: to communicate via electronic mail or telephone with the game directors in the control room and to observe the deliberations of the player team. The communication function made it possible for the control team to remain in a central location instead of running to player rooms to answer every question. The communicators were skilled in the use of electronic mail and could efficiently construct messages. The players did not have to interrupt their own discussions to type messages or talk to control on the telephone. The observation function meant that the game directors, although not present, could learn about the teams'
interpersonal processes and about how the positions represented by the formal move came about. This better enabled us to adjudicate moves in a manner responsive to the intent of the players.

**Presentation of Information**

Players reported that the materials were sometimes difficult to comprehend. In the first game, most of the information was presented as a compendium of tables in the New Elsinore *Almanac*; the lack of graphs and charts made comprehension difficult. By the second game, we were able to make the tables more readable and supplement some of them with graphs and charts. Consequently, the players in Game 2 found it easier to absorb the information than did their Game 1 counterparts.

In part, this problem was a matter of time. For both games, the control team was pressed to process a move and arrive at a situation for the following move. This was particularly difficult to do in the four hours available between the second and the third move. In the future, as the formats for games become better standardized, we will develop more and better graphical presentations of information. This improvement is especially important as we move from analyst players to policymaker players.

Although the players generally found the game materials sufficient to address the tasks set out for them, there was some sense that too much information was sometimes presented, especially at the beginning of the game. Our approach was to attempt to provide all the information a team might want; as a consequence, the materials were not well enough structured for players to find what they desired. In future games, information will be extensively indexed to ease the player tasks.

**Inter-team Communications**

Although the player and control teams generally found the game a useful and enjoyable experience, a majority of the members of the player teams nonetheless felt that they had not been fully or continuously challenged by the situations and tasking with which they were presented. Part of this feeling stemmed from a sense that they were laboring in isolation from the other player teams, as if the game were three pairwise interactions between the control team and each player team rather than a single game with extensive interactions among all the teams. This sense of isolation was of particular concern to us because an eventual goal of the project is to demonstrate to policymakers the inter-relationships among the enforcement, treatment, and prevention sectors.
The sense of isolation was well-founded. In Game 1, there were no direct communications among player teams. Even when, on the third move, we attempted to have teams communicate, they had no apparent motivation to do so. In part because of this phenomenon, we altered the team structure between Games 1 and 2 to drop the dealer team and to split the enforcement team into police and courts & corrections. But even then, communication was minimal and always instigated by the courts & corrections team, who saw their role as interacting heavily with both police and the treatment community.

Over both games, the sense of isolation appeared to have stemmed from a combination of the breadth of focus in the players' tasking, a certain passivity on the part of the control team, and the particular areas of interest to the player teams. The players' taskings did not force the teams to concentrate on areas in which their interests directly conflicted, but rather allowed the players to choose from among a broad range of options. The control team chose to let the player teams' policy choices play out gradually rather than presenting the player teams with new problems generated by the control team. Finally, the choices that the player teams actually made for the most part (with the notable exception of the courts & corrections team in the second game) proved not to require a great deal of interaction among the player teams.

LESSONS LEARNED FOR LOCAL DRUG POLICY

Given the small number of games and special nature of the players, our lessons learned for drug policy are suggestive at best. Nonetheless, both the control and player teams believed that some of the outcomes of the game were accurate reflections of the real local drug world that are often not adequately taken into account in formulating policy. We present here some of the issues that emerged from the games; none of these issues is new in the drug policy world, but the game served to highlight their importance. After briefly enumerating lessons for the supply side and demand side of drug control policy, we will close with two overarching policy issues that seem to crop up in almost all real-world and gaming situations.

Supply-Side Lessons

The strategies employed by the enforcement-oriented teams in the two games resulted in a number of interesting results, discussed below. Our statements should, of course, be read as conjectures and not as firm findings.
Arrests and Street Sweeps. In the two games, police strategies emphasizing arrests and street sweeps held little promise. Dispersal and relocation of open-air markets is relatively easy, and there is significant indoor activity in any case.

Community Policing. Are community policing (CP) strategies cheap and effective ways to address the drug problem? In the first game, the adoption of a CP strategy led to a low-cost (if possibly only temporary) equilibrium solution to the drug problem. If cities can implement CP strategies simply by reallocating police resources (either away from concentrated street sweeps or away from patrol-car officers), and if we are correct to assume that CP strategies would drive out open-air markets but not have an initial effect on overall drug use, then such strategies may provide a low-cost way to reach an overall equilibrium in the drug policy area. The enforcement sector satisfies the desire of the citizenry for safer streets (and does so without increasing expensive prison space). The dealers are willing—perhaps even glad—to move to distribution methods with reduced violence so long as sales volume remains constant. The treatment and prevention authorities, so long as they consider criminal justice referrals to be poor candidates for successful treatment, will be essentially indifferent.

The long-run situation is less clearly satisfactory to all involved, at least if CP strategies reduce street crimes other than drug dealing and if nonstreet crimes do not provide adequate substitutes as income-generating activities for drug users. If true, these assumptions would lead to significant dissatisfaction on the part of drug users and dealers. Presumably this is a desired effect.

One can therefore generate a number of more focused research questions involved in judging whether CP strategies present a promising weapon in the battle against illegal drugs. Can a CP strategy that shuts down open-air drug markets be implemented without significant increases in overall policing expenditures? How easily can open-air markets move indoors? How readily can users substitute non-street crimes for street crimes as a way of earning sufficient income to purchase illegal drugs? Of course, the usual questions about CP strategies—for example, do they really reduce street crime—remain as well.

Demand-Side Lessons

Evidence from outside our games supports the demand-side findings, perhaps more than it does for the supply side, but the findings should still be regarded as tentative.

Treatment for Criminal Justice Clients vs. Other Groups. In both games, but especially in the second game, the treatment team was far less interested in spending scarce resources on criminal justice referrals than were criminal system teams. The priorities were,
for the most part, unstated and led to misunderstandings. Even when negotiation of priorities was attempted, no clear resolution emerged. Whereas the enforcement team wanted to put drug-using criminals into drug treatment, the treatment team had as its first priority broad-based treatment or prevention programs for adolescents and pregnant women. Enforcement-sector strategies involving non-police agencies are not particularly relevant when prisons are nearly full and politically or budgetarily expensive. Unless the treatment sector agrees on priorities, rehabilitative strategies based on treatment are doomed to failure.

**General vs. Specific Definitions of “Treatment” and “Prevention.”** In the second game, the treatment team developed a comprehensive definition of treatment going beyond the drug problem to such elements as child care (both during treatment episodes and generally), vocational training and counseling, family counseling, and integration into a functioning community. In the first game, the treatment and prevention team did not seek to treat only those already using drugs, but rather sought to provide services to women from populations statistically likely to use drugs or to give birth to children with substance-abuse problems. The team did not seek to directly address drug use; rather, it sought to prevent drug use by providing generally useful services to a population at risk of drug use.

Such approaches bring to mind two questions necessary to determine whether general approaches are more effective than more narrowly focused programs. First, how much effect does providing the more general services have on preventing or identifying drug abuse? Second, how effective are criteria useful in determining whether populations are at high risk of drug abuse in reaching individuals who are actually abusing drugs?

**Can Some Drug Programs Be Self-funding?** The treatment teams attempted to engage in creative financing for their programs, even though they believed that the programs (e.g., those oriented at pregnant women) were likely to result in a net cost savings to local governments. For many classes of client, the costs of providing treatment were estimated to be less than the expenditures that would result from not treating (e.g., public care for infants with substance-abuse problems). One can similarly imagine that some enforcement programs would net greater revenues from asset seizures than their costs. In a sharply constrained budgetary environment, programs likely to be self-funding seem especially worthy of study to determine if they in fact produce savings to local governments greater than their costs.
The Need to Talk to One Another

An issue that we were certain would emerge from the game was the need for different constituencies to talk to each other. Different segments concerned with drugs have different priorities, and it is too often assumed that those with a common concern about drugs have common objectives. If policymakers from the different segments plan based on unfounded assumptions, policies can conflict, not only on the tactical level of implementation, but also on the strategic level of what goals are. These conflicts result in “turf battles” that lead each side to question the good faith and motivation of the other. The game, because of its ability to place actors from different constituencies together, provides a vehicle for increased awareness of false assumptions and of a need, extending far beyond the game, for different constituencies to communicate.

Such communication does not automatically solve the problem. The level of resolution of the game in terms of space, time, and people is very different for different constituencies. Police focus on specific street corners, in a time span measured in days and with an interest in a small number of dealers, whereas treatment focuses on communities within the city, in a time span measured in months and with an interest in special categories of potential clients. Courts and corrections look at the entire county, in a time span of months to years and with a focus on people passing through that system. These differences in resolution make it difficult for various constituencies to coordinate efforts.

Importance of Policy Tradeoffs

The game also highlights the known-but-often-ignored truth that all policymaking is based on tradeoffs; there is almost never a political policy that is affordable and the best thing for all people and all circumstances. Players typically began the game by trying to implement an “ideal” policy. When brought to earth by feasibility and budgetary considerations, they reconsidered and began explicitly trading off various options and looking for novel approaches.

For example, the treatment team in the second game attempted to maximize benefits to cocaine-using pregnant women by starting an initiative. When funding was not available, they then attempted to divert funds by shutting down methadone maintenance clinics to create more cocaine slots. This resulted in an increase in heroin use, which in turn caused the team to reconsider and compromise.

Another example was the enforcement team’s attempt in the first game to implement community policing. Although this was successful at first, later there was resentment by
police who perceived it as a “social worker” role. The team responded by cutting back and attempting to increase police self-esteem.
Appendix A

ROSTER OF PARTICIPANTS

<table>
<thead>
<tr>
<th>GAME 1 (all RAND)</th>
<th>GAME 2</th>
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<tbody>
<tr>
<td>Carl H. Builder</td>
<td>Edgar H. Adams</td>
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<td>Audrey Burnam</td>
<td>National Institute of Drug Abuse</td>
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<td>Sinclair B. Coleman</td>
<td>Jonathan Caulkins</td>
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<td>Carnegie-Mellon University</td>
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<td>Terry Dunworth</td>
<td>Jonathan K. Cave</td>
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<td>Helen DuPlessis</td>
<td>Lovida H. Coleman, Jr.</td>
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<td></td>
<td>Dilworth, Paxon, Kalish, &amp; Kauffman</td>
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<td>Peter W. Greenwood</td>
<td>Robert Curvin</td>
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<td>Ford Foundation</td>
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<td>Peter Jacobson</td>
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<td>Robert MacCoun</td>
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<td>Elizabeth A. McGlynn</td>
<td>Hilary Farris</td>
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<td>Peter A. Morrison</td>
<td>Pedro José Greer, Jr.</td>
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<td>Camillus Health Concern</td>
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<td>C. Richard Neu</td>
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<td>Anthony H. Pascal</td>
<td>Benjamin H. Renshaw, III</td>
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<td>Bureau of Justice Statistics</td>
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<td>Susan Resetar</td>
<td>C. Peter Rydell</td>
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<td>Peter H. Reuter</td>
<td>Irma Strantz</td>
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<td>University of Southern California</td>
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<td>Aaron Saiger</td>
<td>Robert Thomas</td>
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<td>California Superior Court</td>
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Controllers and Communicators

| M. Douglas Anglin                             | Margaret M. Bitzinger                                       |
| Margaret M. Bitzinger                         | Sinclair B. Coleman                                         |
| James P. Kahan                                | Helen DuPlessis                                             |
| Peter Noehrenberg                             | Joel Feinleib                                               |
| Diane C. Schoeff                              | James P. Kahan                                              |
| John Setear                                   | Peter Noehrenberg                                           |
|                                               | Peter H. Reuter                                             |
|                                               | Diane C. Schoeff                                            |
|                                               | John Setear                                                 |
|                                               | Barbara R. Williams                                          |
Appendix B
TWO PILOT GAMES

In this appendix, we present a narration of the two pilot games of local drug policy. We describe the situation facing the players before each cycle and the action taken by each team at its move. The control team's adjudication of each move is reflected in the situation facing the teams in the following cycle.

GAME 1

Game 1 was played in a present-time environment. We told players to assume that the date was 23 July 1990, one month earlier than the actual time of play. Players were organized into an enforcement team, a treatment/prevention team, and a dealer team.

The Opening Scenario

Jutland County was presented as a place with a serious drug problem. An overall population of just under one million people had an estimated 26,700 users of cocaine, 65,000 users of marijuana, and 4,600 users of heroin. The city accounted for between 65 and 80 percent of the county’s users. The number of deaths in the county resulting from illegal drug use increased from 105 in 1979 to 276 in 1989; the number of emergency room mentions of illegal drug use increased from 300 to 2,900 in the same period. Sixty-eight percent of the individuals arrested within the city had positive urine tests for at least one illegal drug.

Enforcement authorities arrested about 10,000 individuals for drug-related offenses in 1988. Street crime and open-air markets were concentrated in about half of the city's ten city-council districts. A concentrated series of street sweeps of open-air markets, codenamed Operation Fortinbras, had netted 6,640 arrests and seized $1.8 million in drug monies in its first six months of existence. Local police cooperated with federal entities both in Operation Fortinbras and more generally.

Treatment/prevention authorities funded some two dozen treatment programs with city monies, using a mix of drug-free outpatient, methadone maintenance, and inpatient detoxification programs. Treatment programs were generally well established but not overfunded. There were some waiting lists, and few facilities for women or for crack babies. Prevention was described as the “weak sister” in the treatment/prevention sector, with a DARE program in all elementary schools and some drug-free workplace programs but little else.
Other issues presented to the teams in the opening scenario included the need for substance-abuse beds in area hospitals, the structure of the illegal drug market, possible police corruption in a high-crime precinct, and the need to decide what to do with a federal grant of about $800,000 for handling repeat drug offenders.

First-Round Player Deliberations

During the first cycle, there was considerable message traffic between the control team and the three player teams, but no attempt at communication among the various player teams. The dealer team sent seven messages to control, the enforcement team nine, and the treatment/prevention team 11, all in four hours of discussion. Discussion within each player team was lively, and many more options were discussed than eventually appeared in the team moves.

The player team messages were almost entirely requests for clarification or for more concrete information. The enforcement team was particularly concerned about the location and intensity of drug crackdowns. In addition, they asked a number of questions concerning the possible corruption scandal. The treatment/prevention team was concerned about the magnitude of the drug problem (e.g., how many crack babies were born in the previous year) and about the costs of various programs (e.g., how much it cost per child contact for the DARE program). The dealer team was concerned about the profitability of their enterprise (e.g., how many rocks of crack at what price can be made from a kilogram of pure cocaine).

Move 1

Enforcement Team. The team proposed several initiatives in its first move. Reflecting a belief that traditional arrest-oriented enforcement solutions were inadequate, the team proposed cancelling drug sweeps and channeling the funds saved thereby into an experimental community policing (CP) program in one precinct. The focus of the CP program was to reduce violent crimes associated with drugs and to reduce community problems and complaints associated with drugs, not just make arrests for drug-related offenses. The team suggested that police resources currently channeled into the DARE program be devoted instead to a high-risk youth program to complement the CP effort.

The $800,000 in repeat-offender funding was to be channeled into a Computerized Repeat Offender Program ("CROP") to obtain both more convictions (e.g., by conducting additional investigations) and lengthier sentences (e.g., by documenting any prior record and ensuring that it was brought to the judge's attention). It was to focus especially on those repeat offenders with a history of violent crimes.
The team also proposed the formation of an Inter-agency Secure Information System ("ISIS") involving all enforcement authorities operating in the metropolitan area—whether local, state, or federal. Such a program was estimated to cost $250,000, to be obtained from local, state, and federal sources.

Finally, the team asked the New Elsinore Police Department's police chief for a report on the corruption problem.

**Treatment/Prevention Team.** The team, desiring to improve prevention's "weak sister" status in New Elsinore, wanted to emphasize prevention initiatives over new treatment programs. It also recommended careful attention to choosing the proper priorities among programs. Throughout the game, for example, the team believed that the most cost-effective treatment and prevention programs would be those that targeted adolescents and pregnant women.

The team proposed the adoption of a successful school-based prevention program that emphasizes the development of "resistance skills," allowing the target group to combat social pressures to use drugs and cigarettes. They also proposed a related mailing to parents warning them that drug use set a poor example for their children, and suggested the design of a "booster" resistance-skills program for use in the 8th grade and beyond. The estimated additional cost for the total set of programs was well under $100,000.

In the treatment sector, the team proposed a Prenatal Care Program to be made available to all pregnant women, regardless of their income. This program was to include an outreach component, toxicological screening, and treatment and education services for users. Those identified as users by the program were to be given immunity from criminal drug prosecution while pregnant. Any later prosecutions could use the program's records for evidence. The team estimated that roughly 2,500 pregnant women would seek care under the program, that the program would identify roughly 250 substance abusers and treat about 125 of them, and that 100 babies should thereby be spared exposure to illegal drugs. The estimated cost of the program was $2.7 million. To fund the program, the team proposed that the state legislature join an optional Medicaid program covering pregnant women who have incomes below 200 percent of the poverty level; this program would allow the state and federal governments to cover roughly $2 million in outlays, with city funds suggested as the source of the remaining $750,000 in funding.

The team also proposed a comprehensive study of the cost and effectiveness of the various treatment modalities currently employed in New Elsinore, including an exploration of the availability of innovative programs treating cocaine abuse and an investigation of the
cost effectiveness of treatment compared with maintaining abusers in the criminal justice system.

**Dealer Team.** The team generally attempted to make their operations less visible and more difficult to disrupt through enforcement actions.\(^1\) Anticipating the continued success of sweeps, the team wished to relocate a number of the open-air markets to previously unused sites and to cut their size, making street sweeps against them more difficult. The team also expressed an interest in making enforcement more difficult by persuading lower-level dealers to use networks of lookouts and beepers more extensively, and by selling drugs in settings less conspicuous than open-air street markets, such as shopping malls and movie theaters. In addition, the team encouraged its lower-level distributors to provide price discounts to first-time users and those recently returned from treatment, to reduce their use of violence and their own drug use, and to employ fewer adolescents as messengers.

The team also proposed developing and offering new products, such as injectable mixtures of cocaine and heroin ("speedballs") and smokeable methamphetamine ("ice"). The team had been informed that they had some informants in the police department, and the team decided to allow one of those collaborators to bust a high-level dealer. Finally, the team proposed engaging in some organized philanthropy to improve their low standing in communities where dealing was prevalent.

**The Revised Situation for Round Two**

The situation for the second cycle of play was based on control's analysis of the consequences of the player moves. The control team's general rule throughout the game was to assume that the players' initiatives would be implemented if they were politically or organizationally feasible. In evaluating the results of those implementations, we operated with the presumption that the player teams' efforts would be successful where not directly stymied by relevant actions of another player team; we were interested in seeing where the player teams' actions might lead, not in frustrating them at every turn. In practice, this general rule led to the implementation of many, but not quite all, of the player teams' suggestions.

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\(^1\) There was some confusion throughout the game as to the exact role to be played by the members of the dealer team. They eventually decided to act as if they were a group of high-level drug dealers who together exerted a significant amount of market power in the metropolitan area. The control team treated the dealer team as if it represented a group of high-level dealers with only a modicum of market power, but might nonetheless be representative of the attempted actions of dealers as a whole.
The control team advanced the game clock nine months to 23 April 1991. The players were instructed that their taskings for the first cycle had not changed. New information was provided as follows:

Drug usage levels have continued citywide at roughly their previous levels.

The program of major street sweeps was cancelled, and a pilot CP program begun in one precinct, to include extensive foot patrols and even a midnight basketball league. (In contrast to many cities, the NEPD did not raise many objections to the program, perhaps because of its experimental status.) Arrests and citizens’ complaints about crime in this precinct both dropped, as the CP program appeared to drive some crime from the streets. Citywide, arrests were off some 20 percent, but the excess of potentially prosecutable cases over prosecution resources meant that convictions dropped only 10 percent, and the average sentence meted out to those convicted of drug offenses remained essentially the same. Arrests of juveniles for drug offenses decreased citywide. A high-level cocaine dealer was arrested and charged as a result of an anonymous tip. Police reported that more dealers seemed to be equipped with beepers—although the telephone company had in some cases replaced push-button phones with beeper-unfriendly rotary models—and that individual open-air markets appeared on average to be smaller, although the citywide volume of trade in such markets had increased slightly. The print media reported that some individuals alleged to be drug dealers had distributed free turkeys at Thanksgiving and Christmas. A large “ice” lab was raided by police.

The dealer team was privately informed that dollar sales volume from open-air markets was up after the decrease in enforcement, but that there was relatively little decrease in the amount of violence or drugs used by dealers, and that no discount programs had been widely implemented.

The NEPD announced the implementation of CROP, which was already proving its utility in convincing judges to allow pre-trial detention rather than bail for repeat offenders. In a less publicized event, the NEPD, the county sheriff, and a number of federal enforcement agencies implemented ISIS, which yielded a high-level bust directly attributable to computerized cross-utilization of information from separate agencies. The report on corruption by the chief of the NEPD to the enforcement task force asserted that the NEPD was vigorously pursuing the matter.

The New Elsinore School Board announced the implementation of the Resistance Skills Program in the 6th and 7th grades, and the allocation of funds to develop a booster program for 8th graders and beyond as well as the adaptation of the relevant materials to use in the 4th and 5th grades. A proposed Prenatal Care Program failed to convince the
state legislature to take on the extra fiscal responsibility of joining the optional Medicaid program, but the city government remained committed to new spending of $750,000 on an innovative treatment program to encourage the most needy populations to take advantage of city treatment services.

The School Board and the NEPD agreed to leave the current DARE program in place.

The treatment-effectiveness study was presented in two parts. Although local data were difficult to obtain, data gathered from across the nation showed that duration of treatment (the longer the treatment, the better the outcome) dominated which treatment modality was employed. Broadly considering not just the costs of prison for that fraction of users likely to wind up incarcerated but also health-care and other costs, treatment was generally considered to return benefits between one and ten times as great as its costs. No dramatically effective new treatment modalities were identified, but the study concluded that an innovative system for managing current modalities and for assigning actual and potential clients within them could provide substantial additional benefits.

**Player Deliberations in Round Two**

During the second cycle, there was considerably less communication from the players to control. The dealers sent three messages, the enforcement team five, and the treatment/prevention team but two. Again, there was no attempt to communicate with members of other teams. As before, the communications with control were for more detailed information than was presented in the situation summary. For example, the dealers wanted to know the percentage of decreased business, the police team wanted to know exactly how many patrol cars were available each shift, and the treatment/prevention team wanted the average dollar cost to the Jutland County hospital system of each uncomplicated birth and crack baby birth.

Discussion within the teams varied considerably. The dealer team was attempting to find ways to creatively expand its market. The enforcement team spent most of its time concerned with police matters and attempted to broaden the role of police and improve the police image in New Elsinore. The treatment/prevention team began to lose interest in the game and, in response to the types of feedback presented in the situation summary, focused more on treatment than prevention.

**Move 2**

**Enforcement Team.** Judging the pilot CP project to have been a success, the enforcement team decided to convert another precinct to a CP model, taking the necessary
manpower from New Elsinore low-crime districts. The enforcement team also proposed physical fitness programs and morale boosting to encourage an image of the NEPD as the "Fittest and Finest."

On a more traditional note, the team proposed compiling a continuously updated list of ten "targeted dealers" to arrest or harass whenever possible. The team also proposed that CROP generally target drug dealers rather than violent offenders. It also suggested that ISIS be allocated more money.

**Treatment/Prevention Team.** The treatment/prevention team proposed two major initiatives: the New Elsinore Women's Assistance Vehicle (NEWAVE) and the Regional Adolescent Program (RAP). NEWAVE's primary capital asset was to be a large van for health screening and referral of women, especially pregnant women or women with sexually transmitted diseases (STDs). The van was to appear on a regular schedule, most frequently in neighborhoods with inhabitants judged to be at high risk of drug use or STDs. The van would contain health-care and social-work professionals to screen the women for pregnancy, STDs, and drug use, and to refer women (where appropriate) to drug treatment programs, prenatal care, family planning, or job counseling. The program required about $750,000 in resources, the amount allocated by the city for new treatment/prevention programs.

RAP was designed to provide broad-based assistance to youth in high-risk neighborhoods. The city was to provide youth centers and the requisite staffing to conduct counseling, activities such as youth basketball, group discussions about family and other problems, and tutoring for children with learning disorders. Private businesses would be encouraged to provide summer jobs or job-training sessions. The juvenile courts might refer particular individuals to such programs, although the programs would be open to a much larger group of individuals. The program's cost was estimated at $4 million, to be funded by diverting $2 million from drug treatment programs, $1 million from mental health programs, and a $1 million contribution from corporations.

The team also proposed replacing DARE with the school-based prevention program and expanding that program to the 4th and 5th grades.

**Dealer Team.** The dealer team was generally happy with the situation. Community policing was good for business—violence was likely to decrease and revenues seemed unaffected. If the business were to be pressed, the team thought that it would be relatively easy to move into other precincts or into county areas. The team proposed continuing its efforts to introduce new drugs into the New Elsinore market. It also proposed to offer all dealers high-priced legal talent from major metropolitan areas with extensive drug trades
(e.g., Miami, Los Angeles) if they were prosecuted, although actual court appearances would continue to be made by local attorneys.

The Revised Situation for Round Three

The control team advanced the game clock another nine months. The incumbent mayor won a narrow victory in the general election.

In the precinct with the CP program, higher levels of community participation in reporting criminal offenses led to a change in the pattern of offenses, with drops of 20 percent in burglaries and 27 percent in robberies. Violent crimes generally were also down, and participation in Neighborhood Watch doubled. Dealers in the area suffered roughly a 15 percent diminution in demand as clients more frequently claimed an inability to engage in criminal activities from which they derived the income necessary to pay for illegal drugs. Street markets in the precinct have shrunk in size and frequency; some open-air markets have moved across the city line.

Elsewhere, resistance from precincts slated to lose officers delayed expansion of the CP program. Crime dropped following the introduction of the program, but there was no reduction in drug usage. Outside of the CP program area, drug dealing and street crime in the city have increased. The county sheriff also reports an increase in drug sales and street crime. Gang violence was on the rise. A drug raid was tipped off—apparently by someone in county government—with the result that TV crews arrived on the scene before the police; no dealers were arrested.

There were also indications that a Los Angeles-based group with long-time local connections was flooding the area with ice and speedballs, using a combination of new drugs, lowered prices, and an extensive network of community-based dealers.

The federal government was lukewarm to requests for increasing ISIS funding, with a feeling in some quarters that the CP model was insufficiently tough-minded.

The city announced the implementation of the NEWAVE program. The New Elsinore schools implemented the resistance-skills program. The mayor refused, however, to implement the RAP program, calling it insufficiently focused on the drug problem and a fund-stealer from related programs.

In developments not related to player team actions, hospitals pushed the city for more funds for treatment. More businesses in the city implemented employee-testing programs. The federal government gave New Elsinore a $1.2 million grant for treatment/prevention programs.
In an effort to get the player teams to communicate with each other, the control team issued a notice that the mayor was convening a special meeting of the enforcement and treatment/prevention task forces of the Mayor's Council Against Drugs to advise him on how the criminal justice system could most effectively interact with the treatment sector with respect to arrested or sentenced individuals. The control team asked the relevant player teams to include a discussion of this issue in their move. The control team also provided the player teams with a report setting forth the costs of criminal justice facilities as well as findings that individuals coerced into treatment do no worse than those uncoerced.

**Player Deliberations in Round Three**

In the third cycle, there were again few communications from players to control. The dealer team sent six messages, the enforcement team two, and the treatment/prevention team three. Most of the messages from the dealers concerned the gangs, recently introduced by control.

In spite of efforts to get players to communicate to each other, there was no inter-team communications. The enforcement team believed that they had nothing to say to the treatment/prevention team. The treatment/prevention team, in turn, had nothing of policy import to tell to the enforcement team; in response to control’s request for a program for treatment of criminal offenders, the treatment/prevention team prepared a statement providing a number of slots (at a higher-than-average billing rate) for that purpose.

The dealer team continued to be active during the third cycle, especially in deciding what to do about the new gang activity, which was viewed as a threat to their “good” situation. The enforcement team, regarding its program as successful, sought to find ways to expand it. The treatment/prevention team, believing that it had expended its creative energies in earlier cycles, considerably reduced its level of effort.

**Move 3**

**Enforcement Team.** Judging the CP program to have staying power, the team proposed shifting the entire city to a CP model by reducing daytime patrol cars from two officers to one and assigning the “excess” to foot patrols.

To deal with the rise in gang activity, the team proposed a “Gang-Related Assaults = Sure Prison” (GRASP) program, seeking federal funding of $1.5 million annually for intelligence and strike teams to focus on drug-related gang activity, especially in gangs with ties to other localities.
The team also proposed an organized program to develop better information on drug dealers and markets. Among the program's components were a telephone and mail-in system allowing citizen reports (with possible financial rewards for useful tips), an intensification of efforts to develop informants, and the use of such tips as input into the expanded ISIS network.

As to drug users in the criminal justice system, the team proposed mandatory drug testing of arrestees and systematic consideration of referrals to drug treatment programs for those who tested positive. For those convicted of selling drugs and those drug offenders convicted of violent crimes, there was to be no substitution of treatment for incarceration, except perhaps on the first offense. The relevant city agencies should seek funding for a pilot program of dual intervention—the criminal justice system and the treatment system—from the state government.

**Treatment/Prevention Team.** The team believed that treatment provided a cost-effective alternative to incarceration, but that criminal justice referrals should be placed on a "pay to play" basis—that is, criminal justice agencies should be charged a fee payable to treatment agencies for each referral. The fee should be set to cover the costs of treatment (and therefore should vary by modality proposed), including the extra security costs involved in running programs for those with criminal histories. The resulting monies should be spent on treatment and prevention programs aimed at pregnant women, crack babies, and adolescents; additional demand for public treatment might also arise as a result of increased drug testing of employees, either by those referred to treatment after a positive test or by those fearing a positive test and deciding to seek treatment before being tested. Generally, criminal justice referrals were considered unlikely to be a high priority for treatment otherwise (apparently owing to the poor prospects of success). In any case, a careful screening program would be necessary, as not all potential referrals would be appropriate candidates for treatment.

The team recommended resisting the hospitals' push for treatment money to run inpatient clinics, since the treatment study had shown that inpatient treatment was more expensive but not more effective. The team was open to hospitals' provision of outpatient services.

The team recommended using the $1.2 million federal treatment/prevention grant as seed money for RAP, a program proposed earlier but rejected by the mayor.

**Dealer Team.** The team proposed to continue its dispersal strategy in response to the apparent success of CP, although it modified its decision variable from arrests to sales in light of CP's relative lack of emphasis on arrests.
The team proposed reacting to the apparent competitive threat from the ice-oriented gang by lowering prices below cost, hoping to drive the gang out of business before the "established" dealers incurred excessive losses. If this price-oriented strategy proved unsuccessful after a three-month trial period, the dealer team proposed violence.

The team also took note of the increase in employee drug testing but believed that such testing was unlikely to have significant effects on demand. If employee drug testing did threaten demand for illegal drugs, then the dealers would bribe or sabotage a few drug-testing labs to discredit the program.

GAME 2

Although we wanted Game 2 to again be played in a current environment, we did not want the Persian Gulf war to be part of considerations. Consequently, we began play with the date set at 3 July 1991, approximately six months later than actual time, and declared that the war had been satisfactorily resolved. Players were organized into a treatment team, a courts & corrections team, and a police team.

The Opening Scenario

Jutland County demographics attested to the severity of its ever-increasing drug problem. Out of a population of 1,347,540, the county had 34,000 users of cocaine, 7,000 users of heroin, 10,000 users of amphetamines, and 120,000 users of marijuana. Countywide, the number of drug overdose deaths had increased 50 percent from 1985 to 1991; the number of emergency room drug mentions increased 463 percent for cocaine, heroin, and amphetamines within the same period. A substantial increase in the number of cocaine-related mentions accounted for the upswing. Seventy percent of all male drug felons arrested within the city in the past year tested positive for any drug, excluding marijuana.

Jutland County drug felonies increased fourfold, from 2,000 to 8,000, during the period from 1980 to 1989. New Elsinore accounted for 65 percent of the county's drug felony arrests. From 1987 onward, heroin- and cocaine-related drug felonies declined proportionally to the total number of drug felonies as the use of "other" unspecified drugs increased. During the same period, there were 10,000 drug-related misdemeanors.

During fiscal year 1988-1989, Jutland County expended roughly 40 percent of its criminal justice resources—the costs of police officers, corrections facilities, and probation services—on combating drug-related crime. Drug offenders constituted 20 to 25 percent of new commitments placed under criminal justice supervision.
The county funded 21 treatment facilities, which provided outpatient and residential drug-free programs, outpatient detoxification, methadone maintenance, and a program for heroin users. The majority of participants in the county's treatment facilities were cocaine users. In 1989, cocaine users in treatment outnumbered heroin users almost four times over.

Other information presented to the teams in the opening scenario included a major drug bust resulting in the arrest of 70 suspects, a proposal by the governor to impose fines on drug dealers to help fund drug programs, a proposal for drug prevention and intervention programs aimed at young drug dealers, a bill under consideration that would require the state to provide more treatment programs for drug-addicted mothers and their babies, and a request for federal and state alcohol and drug-treatment funds for hospital-based treatment.

We also presented editorial responses to the proposed Mayor's Council Against Drugs that arose from the precipitating incident. These opinions were critical but not entirely negative. The perception was that the city's drug problems would not be solved by bureaucratic modifications alone.

**First-Round Player Deliberations**

The three teams generated a fair amount of correspondence with the control team during the first move. Control received two messages from the court & corrections team, 11 from the police team, and five from the treatment team during the four-hour session. Most of the teams' messages to control were requests for clarification and for more detailed information to aid in the decisionmaking process. Primary concerns of the police team included a breakdown of drug arrests by location and type of operation (e.g., open-air markets or crack houses). The team also requested information on the police department's level of acceptance within the community. The treatment team's messages included questions about the county's resources and the capacity vs. demand for treatment. The courts & corrections team requested information on court overload and drug arrestees (e.g., what is the average time between arrest and disposition and the number of drug offenders arrested who are juveniles or are legally indigent).

At the instigation of the courts & corrections team, there were two bilateral meetings during the first move. Courts & corrections sent delegates to meet separately with each of the other teams. These discussions, which lasted about 15 minutes each, were used to share general orientations and common problems. For the courts and police, the issues were with regard to testing and possible diversion of arrestees; for the courts and treatment, the issues were concerning the availability of treatment for criminal justice inmates, parolees, and
probationers. The latter deliberations led to a joint treatment/corrections experimental treatment program.

Within each team, the discussions were oriented toward structuring the problem and generating options before the move was written. Within each team, the captain took a position of moderator, not adjudicator of team differences. It is fair to state that each player on each team made substantive contributions.

Move 1

Police Team. The team proposed a comprehensive intervention program called “Community Law Enforcement Against Narcotics,” otherwise known as “Operation CLEAN.” Funded as a demonstration project, Operation CLEAN would be a joint effort by law enforcement, court & corrections, and treatment. The objective was the reduction of drug-related violence and drug-trafficking, using a massive enforcement presence to drive market participants and criminals off the streets.

The team proposed targeting three geographically distinct open-air markets and conducting a campaign of deterrence, imposing user sanctions and other measures based on the nature of the drug markets. The plan of action was as follows: high-profile coverage of arrests in a suburban middle-class area, neighborhood reclamation in a crime-ridden district, and restoration of a park area through additional park services and enforcement measures aimed at driving out the drug dealers. A related concern was to disrupt budding drug-peddling operations before they could take root. Optimally, the drug dealers and their customers would not establish new markets, but would disperse to pre-existing markets.

As an adjunct to Operation CLEAN, Community Partnership Empowerment, or COPE, was proposed to guard against a resurgence of drug activity. COPE required a reciprocal commitment between neighborhood residents and city and federal government agencies. In return for maintaining a drug-free neighborhood, the citizens were assured of better police, health, maintenance, and sanitation services. COPE was to be coordinated with Drug Enforcement Agency (DEA) and FBI regional offices. The team recommended that the police chief appoint his principal deputy chief as coordinator for Operation CLEAN and for COPE. It acknowledged that by increasing the demands on NEPD, there would be fewer resources available for high-level enforcement and police participation in multi-agency task forces.

Other police team proposals concerned priorities for arrest. The team recommended that the police increase the arrests of drug dealers who use children and those who possess weapons, promoting the program to the mayor under the slogans “Use a Kid, Go to Prison”
and “Use a Gun, Go to Prison.” As a means of discouraging needle sharing, and by extension the spread of related diseases such as AIDS and hepatitis, they proposed not to interfere with any needle distribution projects and to refrain from arresting anyone found in possession of needles and other drug paraphernalia.

**Treatment Team.** The treatment team noted that the data provided were not adequate to assess the dimensions of the drug problem, in particular the prevalence of drug abuse in the community, the demand and efficacy of treatment available, and the connection between drugs and social problems.

Therefore, the team recommended the formation of an interdisciplinary task force to perform an outreach/clearinghouse function. The task force was to establish goals and promote communication among representatives of ordinary citizens and of the court, police, and treatment systems. Regular meetings would allow the task force to remain apprised of community concerns and to build a consensus between government and civilians, and between private parties and public organizations.

There was a strong element of prevention in the team’s recommendations. They proposed a comprehensive system of clinics and ancillary programs situated in areas with high concentrations of at-risk populations. The proximity would enable them to accumulate data to examine trends as well as to identify, screen, and refer clients to appropriate treatment programs. Priorities for treatment were those most likely to be at risk: women (particularly pregnant women), minorities, and arrestees. The treatment programs were to be restructured to emphasize users of cocaine, crack cocaine, and amphetamines, at the expense of heroin users and others requiring inpatient detoxification.

The changes were designed to not require a financial commitment from the state. The proposal specified that a combination of community groups would support the effort.

The team stressed the diverse social benefits of expanding treatment on the basis of crime prevention, increasing the productivity of workers by helping them to remain drug-free, and as an alternative to incarceration.

**Courts & Corrections Team.** The team’s primary concerns were decreasing drug abuse in the communities and among the criminal population and reducing drug-related crime. To achieve these ends, the team advocated behavior modification and more inter-agency coordination. In keeping with the emphasis on coordination, this team instigated meetings with the other teams to help ensure that the various moves would be in synchrony.

The team focused primarily on offenders already in the criminal justice system, and proposed a comprehensive program for the entire criminal system (including arrestees, the
prison population, probationers, and parolees) that would consist of drug testing, detoxification, treatment, graduated sanctions for drug use, and drug interdiction in prison.

To involve all the appropriate bureaucracies in the process, the team proposed establishing a coordinating committee to institutionalize the analysis of drug problems, data collection, monitoring of program effectiveness, and funding. The following proposals were also recommended: expand probation to include noncustodial punishment such as house arrest, curfew, and mandatory treatment; education programs on substance abuse and treatment programs for judges and prosecutors; introduce legislation expanding the authority of the courts to impose enhanced sentences on predefined categories of egregious offenders; request that police and prosecutors prioritize the arrest and conviction of local drug dealers who use violence or are frequent offenders; and last, provide drug offenders with access to treatment programs that include job training in addition to drug treatment.

The team did not believe its proposals would require additional judges or salaries. It acknowledged that the enhanced probation program would be the most costly, and proposed a minimum probationary period of a year and a half for every serious felon. The terms of probation would include drug testing, work requirements, and curfews. The capacity of the program was estimated at 6,000 on probation per year. If only drug-positive offenders are included, the number decreases to 4,200. Misdemeanor offenders would constitute 3,000 hours. The expected cost of the program was placed at $21 million. The team concluded that the expense incurred by an enhanced probation program would be offset by its efficacy, that is, increased deterrence and contributions by probationers. The team acknowledged that its proposals would place heavy demands on both the treatment and the police sectors.

The Revised Situation for Round Two

Taken together, the three first-round team moves concentrated on the following themes: meetings in the community, emphasis on dealers using guns and children, probation-treatment-sanctions for criminal justice system referrals, and treatment in prison. Although there had been some attempt at coordination among the teams, their means for dealing with the themes were still disparate, leaving the control team with a large task of adjudication.

The clock for the second round was set at one year following the first round. This time step was the minimum needed for some of the effects of player moves, especially the treatment and courts & corrections teams, to be felt.

The police initiatives targeting drug activity were implemented; 20 officers were assigned to continuously patrol the open-air market area. Although drug sales decreased
slightly, most of the traffic moved to other areas; suburban users' access to amphetamines was not seriously affected. In the high crime area, police patrols were stepped up and police involvement in community programs increased, resulting in a 10 percent decrease in violent crime in the neighborhood and a 10 percent decrease in use of open-air markets in the immediate area. The latter was offset by increased business at other open-air markets. The park initiative resulted in a 15 percent decrease in drug dealing.

The COPE program was also implemented. It produced a heightened sensitivity toward crime, but created resentment of the mayor's policy of favoring the more affluent, less crime-ridden neighborhoods with more attention from the police. As a result of the "Use a Kid, Go to Jail" and "Use a Gun, Go to Jail" policy, arrest rates and average sentences for targeted dealers increased about 25 percent, while those for nontargeted dealers decreased slightly. Funding for the new efforts was via a one-time federal demonstration grant.

The treatment team's priorities were implemented, resulting in the elimination of 270 methadone maintenance slots and the addition of 325 outpatient slots (evenly divided between criminal justice referrals and other sources), 140 residential slots, and an additional 30 residential slots for women. These shifts in priority were not accompanied by the establishment of selection criteria for treatment, and success rates were unimproved.

The treatment team's proposal for a two-tier treatment program for arrestees was passed over as too expensive; instead, referrals to a 12-Step program were made. The mayor's staff perceived the two-tiered program as bad for public relations, likening it to a "drug school." The cut-down program did have some success; about one-third of arrestees entered the program, of which about half completed it. Sixty percent of those completing the program were still drug-free nine months after the program began.

The police and treatment communities established a diversion program for pregnant drug abusers, so that they would receive treatment and pre-natal care instead of incarceration.

A pilot program (last address arrest program) to track people with outstanding drug-related warrants was instigated to reduce the number of outstanding warrants and the recidivism rate. The program's lack of success could be tied to the understaffed probation system.

A staged sanctions program recommended by the courts & corrections team was implemented. "Dirty" arrestees were targeted for extra attention. Parolees with a drug record were required to test clean as a term of parole. As a result of this program, large numbers of parolees failed the terms of release and were reimprisoned, and there was an increase in the treatment waiting list.
Following a recommendation of the courts & corrections team, the legislature passed a bill to allow the courts to impose enhanced sentences on egregious offenders. Although the results of this new legislation had not yet been felt, higher prison occupancy was anticipated as a result. Proposals to increase surveillance in state facilities failed when the state refused to spend the extra money.

The control team combined proposals from the treatment and corrections teams to institute a pilot Joint Experimental Treatment Program, funded by a grant from the Bureau of Justice Assistance. This program operated a low-security treatment facility for 40 inmates, providing group and individual therapy during the term of incarceration, as well as substance abuse after-care and vocational guidance and training. Dropouts from the program were sent to prison to complete their sentences, whereas successful graduates could enter "supported work" programs. After one year of the program, 35 of the 40 initial participants remained drug-free.

**Player Deliberations in Round Two**

Players continued in round two to communicate extensively with the control team. During the second round, control received six messages from the courts & corrections team, five from the police team, and three from the treatment team. In addition, a number of oral questions were relayed to the control team. Messages to control were often requests for clarification or for additional data. The police team requested a breakdown by open-air markets of drug usage and type of customer, the treatment team requested a breakdown of probationers in the treatment program, and the courts & corrections team requested a probation evaluation report to determine the percentage rate and the reasons for probation failure.

In the second round, the courts & corrections team again instigated a meeting with each of the other teams. For the police team, the meeting was to coordinate testing of arrestees; for the treatment team, it was to obtain treatment for probationers, parolees, and incarcerees. The meetings were largely information exchanges, with no real coordinated planning.

**Move 2**

**Police Team.** The police regarded their programs aimed at neighborhood reclamation and cleaning up drug markets as successful and concentrated on maintaining and expanding those efforts. They proposed a phased plan to target a total of six markets. Since half of these markets specialized in cocaine, the expected result was a reduction in cocaine use.
Police tasking included evaluating local initiatives for a follow-on grant and establishing treatment options for arrestees. Treatment options proposed for arrestees were based on timely processing and referral procedures. Arrestees would be linked to the appropriate agencies/services within the first 24 hours of processing following arrest and prior to arraignment. If detained at arraignment, the health department would be requested to arrange methadone, drug-free, and 12-Step program meetings. If arrestees had been released and tested positive for drugs, they would be referred to outpatient programs with a requirement for reporting results to pretrial services. If they remained in treatment, they would receive assistance for job placement from local businesses. Finally, the team proposed drug testing of all defendants with the potential for detention at court appearance prior to trial and disposition.

In recognition of the circumstances that drive many talented juveniles into a life of drug dealing, the police team proposed an outreach program to target prospective drug dealers. The plan would provide legitimate outlets, such as career opportunities and athletic leagues, to juveniles at risk. To further reduce juvenile participation in drug activity, the group planned to continue its “Use A Kid, Go To Jail” effort.

The police expressed a willingness to cooperate in the courts & corrections’ warrant proposal. They intended to implement it as a pilot program, and then to turn it into an evaluation study to gauge its effects on crime and on the drug markets.

Treatment Team. The team, encouraged by the success of the Joint Experimental Treatment Program and their other efforts, concentrated in move 2 on detailed budgeting to continue their efforts.

They advocated the fourfold expansion of the low-security Joint Experimental Program. To ensure a high success rate, the treatment team discussed refining their probation/treatment program and reevaluating the screening process. Participants were technically supposed to be supported by the Department of Corrections as they were inmates, not probationers. The team proposed that the Department of Corrections allocate the average cost of maintaining 80 inmates annually to the program. The team recommended providing after-care for about 160 inmates with serious drug problems at the end of their sentence. They proposed to expand the program by enlisting the aid of the various business representatives on the Public-Private Task Force (reconstituted as B.A.D., or “Businesses Against Drugs”). The task force members could use their influence in the community to persuade trades and industries to offer job training programs for probationers. Additional staffing could come from using medical, nursing and medical social work students to assist in evaluation and education of the patients.
The team announced its intention to discontinue inpatient detoxification programs and allocate the savings to outpatient programs. These outpatient programs would be expanded to adopt a “total care” approach, where traditional treatment would be supplemented with parenting skills training, child care, vocational counseling, and personal counseling. Patients seeking inpatient detoxification services could go to the city hospital, where treatment would be paid by Medicare or Medicaid.

The team calculated that withdrawing funding for 68 inpatient slots would save $4,758,300, to be used as follows: $270,000 for outpatient detoxification, $120,000 for methadone maintenance (restored after an increase in heroin abuse), $438,000 for residential detoxification, $2,050,000 for residential drug-free beds for criminal justice and other referrals, $787,500 for outpatient drug-free counseling, $92,800 to enhance funding for outpatient drug-free programs to improve success rates with more staff and services, and, finally, $1,000,000 for a RAND evaluation study.

The team proposed differentiating arrestees and channeling those with light offenses and minimal drug offenses into a series of classes similar to traffic school. Participants were guaranteed freedom from further prosecution and an expunged record. Arrestees with more severe drug problems would undergo a more intensive program. Upon completion, they would be offered reduced sentencing, no further prosecution, or favorable probation reporting.

Courts & Corrections Team. The team noted the high success rate of the Joint Experimental Treatment Program and proposed that it be expanded. With the cost of ordinary incarceration at $25,000 per inmate, the additional $5,000 incurred by the program would be money well spent if the program continued to deliver a high success rate. The team reiterated its request for inmate testing by the state and recommended the use of voluntary programs such as the 12-Step. It noted that the treatment team had already offered to provide treatment.

The team stated its intention to expand the successful pilot prison treatment program and to request that the county initiate testing.

The courts & corrections and the treatment teams' common interest in the probation program led to some discussion about treatment's ability to adequately respond to the court system's hard-core drug problems. The team proposed that arrestees who test positive for drugs be immediately incorporated into the treatment programs available to probationers.

The team declined to address the issue of pregnant addicts, citing insufficiency of data.
To reduce prison overcrowding, the team advocated a concentrated effort to reduce recidivism through effective treatment. They recommended reassigning inmates to their low-security treatment facility if the state would agree to pay.

The team proposed expanding the probation program. To reduce costs to the public, funding for the programs would come through probationers. All probationers who could afford private facilities would be referred to them, thereby expanding treatment capacity.

**The Revised Situation for Round Three**

The clock was again set ahead one year between rounds two and three, so that the different proposed programs could be implemented and some of their effects felt. Round three was therefore set to begin on 1 August 1993.

The police continued to support citizen patrols and community meetings. They continued to impose sanctions on drug users and to reclaim parks by upgrading their facilities, increasing evening car patrols, and introducing daytime horse patrols. As a result of treatment options for arrestees, 33 percent of arrestees entered a 12-Step program. About 50 percent of them completed the program, with 60 percent of them remaining drug-free after a year. However, this program had a cost on police morale, as some officers objected to the “social worker” aspects of their roles.

The police implemented a pilot program to reduce the number of outstanding warrants and the recidivism rate. Two police officers tracked down people with outstanding warrants by checking their last known addresses. This program increased slightly the percentage of probation/parole violators who were reincarcerated.

The proposal by the treatment team to change treatment priorities was adopted. The “total care” approach did increase the successful completion rate for participants from 17 percent to 26 percent, but because each treatment slot cost more, there was a significant reduction in the planned slots available.

A coordinating committee to define treatment selection criteria met three times, but was unable to reach an agreement. As a result the mayor tasked the Treatment Council Against Drugs with establishing such criteria.

A two-tier treatment program for arrestees was designed. For relatively minor offenses, a “drug school” for two weeks of anti-drug education was established, while for more serious offenses, outpatient drug-free treatment was provided. However, this program was never implemented because the city political forces preferred the police program of referrals to 12-Step programs.
Efforts to implement drug testing in the prisons were not fruitful. Citing the costs involved ($50 per test) and the low specificity to amphetamines, the state refused to administer drug tests to inmates. A county experimental testing program indicated that the program was not cost beneficial.

An initiative to add work training and job counseling to criminal justice treatment programs was implemented at $750 per person per year and produced a 20 percent success rate, compared to an 18 percent rate without a combination of training and counseling.

As for the court system attempt to have as many criminal justice system drug abusers pay for their own treatment as possible, data showed that only 20 percent could pay for their own treatment; another 40 percent could pay for half of their treatment.

The Joint Experimental Treatment Program was expanded from 40 to 80 slots per year. The added costs for the “extra care” portions of the program came from business community contributions, largely in kind. After one year, 57 of 80 inmates who had gone through the program remained drug-free and were not rearrested.

**Player Deliberations In Round Three**

In the third round, communication from the teams to control dropped off significantly. There were six messages from the courts & corrections team, but only one each from the other teams. There was one meeting between the courts & corrections team and the treatment team to discuss prioritizing treatment. This meeting was unsuccessful; the players misunderstood each others’ objectives, leading to considerable agitation on the part of the courts & corrections team, as reflected in their move. Within each team, discussion flowed smoothly, but it was clear interest in the game was flagging, especially for the police team.

**Move 3**

**Police Team.** In an effort to target cocaine dealers, the police enlisted the aid of federal agencies to instigate “Operation Snowstorm,” a high-profile, multi-jurisdictional attack on the crack trade. The operation was seen as addressing a growing problem in the city and also a badly needed morale booster to the beleagured police force. The objective was to net as many “good” arrests as possible and to make those stick. As a follow-on to Operation Snowstorm, the police proposed increasing the number of raids on crack houses, especially new ones, following investigation. The New Elsinore Bawdy House Law provided them with the means to begin confiscating crack houses.
The police team devoted considerable attention to the problem of loss of morale. Apart from Operation Snowstorm, the police solicited recognition for its efforts in shutting down open-air markets. The team also proposed cutting back or dropping initiatives that were more social than enforcement in nature, replacing police force members with community volunteers.

In response to the threat of violence, the team stated their intention to continue to arrest people with outstanding warrants, to give priority to the worst offenders, to enhance the "Use A Gun, Go To Jail" program, and to charge people with federal gun law offences, which carry stiffer sentences. The police team balked, however, at advocating gun control.

Lastly, the team pledged to participate in the Coordination Committee by providing data, and coordinating linkage, and in the overall improvement of systemic operations. The police closed on a plaintive note, insinuating that their efforts in combating drug abuse had been frustrated by constraints.

**Treatment Team.** The team proposed rewarding communities for their continued cooperation with the Mayor's Council Against Drugs by providing them with economic development aid. Such aid could include neighboring reinvestment act funds obtained from local banks when they renew their charters under federal law, tax incentives for businesses to relocate to the affected areas, low-interest loans for business development, zoning assistance, increased police patrols to safeguard new businesses (possibly by placing mini-stations in the neighborhoods), and assistance from the University's Business Incubation to provide technical assistance.

The treatment team developed ten categories as criteria for treatment priorities, using a point system based on the relative importance to the probability of success. The system awarded points on the basis of family circumstances, employment records, education, and the like. People with hard-core mental problems (other than depressives) were categorically excluded. The ability to pay for treatment would not be a factor in determining eligibility. A set-aside of 25 percent of treatment slots would not be subject to the point system and be dedicated to criminal justice referrals.

There was a possible resurgence of heroin use, based on increased emergency room mentions and police reports. Consequently, the treatment team decided to increase the methadone dosage to this population.

**Courts & Corrections Team.** The team expressed concern that stepped-up police efforts had not eradicated drug activity but had merely driven it indoors. They asked the police to investigate this possibility.
The team modified its enhanced probation program by reducing the probation period for nonserious drug users from 12 to 24 weeks for those who remained drug-free for the entire period.

The team determined that priorities for treatment should consider, in order, pregnant women, nondealer users involved in a property crime, and nondealer first offenders involved in an unarmed offense. Based on an incomplete understanding of the treatment team's priority system, they formally complained to the mayor that the treatment team's priorities would not address the needs of the criminal justice system and asked that those priorities be rejected.

Prison overcrowding was not expected to present a problem as a result of the team's proposal for graduated sanctions. Moreover, the expansion of the low-security facility would increase the number of slots.

To enhance other programs currently in operation, the team recommended expanding the prison treatment facility, establishing a warrant unit to reduce unserved warrants, and expediting charges against landlords who allow drug dealing on their property.

To halt the spread of crack houses, the team advocated that the county or city rent or purchase the houses after the tenants had been evicted, and turn them into treatment facilities for a detox project.
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