

# Rapid Assessment of the HIV/AIDS Crisis in Racial and Ethnic Minority Communities: An Approach for Timely Community Interventions

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Rapid assessment and response programs have a documented history of success in public health, particularly in international settings. Methodologically sound rapid assessments have typically provided timely data for addressing public health problems such as family planning, malaria, diarrheal disease, dengue fever, and water sanitation,<sup>1–5</sup> as well as disaster intervention.<sup>6</sup> Recently, the World Health Organization, the Joint United Nations Programme on HIV/AIDS,<sup>7</sup> and Doctors Without Borders (*Médecins sans frontières*) have conducted rapid assessments in Eastern Europe, Russia, and the former Soviet republics<sup>8–10</sup> focused on the co-occurring and explosive epidemics of injection drug use and HIV there. Rapid assessment projects have also been conducted in 10 sub-Saharan African countries, focusing on drug-using patterns,<sup>11</sup> with support from the United Nations International Drug Control Programme. Public health officials in numerous countries have turned to time-sensitive methodologies such as rapid assessment to detect emerging epidemiological trends.

Rapid assessment relies on systematic ethnographic (and other qualitative) data collection and analysis techniques complemented by survey information and direct observation studies.<sup>12,13</sup> The rapid assessment process has a number of clearly identified methodological strengths, but it also has inherent weaknesses that can threaten a project and its linkage to public health actions.<sup>14,15</sup> These weaknesses can be methodologically accommodated and overcome, as attested by the fact that the World Health Organization and other authorities commonly choose rapid assessment methodologies to create critical databases and promote community action.

**Objectives.** The US Department of Health and Human Services, in collaboration with the Congressional Black Caucus, created a new initiative to address the disproportionate ongoing HIV/AIDS crisis in racial/ethnic minority populations.

**Methods.** This initiative included deploying technical assistance teams through the Office of HIV/AIDS Policy. The teams introduced rapid assessment and response methodologies and trained minority communities in their use.

**Results.** The first 3 eligible cities (Detroit, Miami, and Philadelphia) focused assessments in small geographic areas, using multiple methodologies to obtain data.

**Conclusions.** Data from the first 3 eligible cities provided critical information about changing the dynamics of the HIV/AIDS epidemic at the local level, including program and policy changes and infrastructure redeployment targeted at the most serious social and environmental conditions. (*Am J Public Health*. 2003;93:970–979)

Rapid assessment quickly collects locally relevant data about emerging patterns of risk behaviors and is relatively inexpensive. Rapid assessment is designed to shorten the gap between research for specific programmatic purposes and the implementation of sound intervention strategies, emphasizing the adaptation of interventions to local cultures and conditions.<sup>16,17</sup>

Rapid assessment can be designed to complement the standard public health surveillance and response systems of developed countries in a number of ways. The extensive qualitative or ethnographic research tradition in the United States that evolved in response to the HIV/AIDS crisis<sup>18–22</sup> has primarily focused on conducting ethnographic studies with hidden populations. Although these studies employ the same basic methods as rapid assessment, they involve much longer time frames and goals targeted at understanding broad, complex cultural and social conditions rather than highly focused risk behaviors and program locations.<sup>21,22</sup> Rapid assessment methodologies provide a parallel but time-modified approach that allows the data to more quickly inform epidemiological studies and to contribute to narrowly focused, short-term planning and

prevention, treatment, and care services for at-risk and affected populations. Correctly conducted rapid assessment and response programs<sup>14</sup> can link local findings to locally relevant, low-cost interventions, allowing resource-challenged countries or highly affected communities to respond to HIV/AIDS issues, regardless of the limitations of existing infrastructures.

Rapid assessment can also be community based without being community biased. Current rapid assessment and response strategies are organized around the involvement of the community in planning and conducting the assessment, evaluating the data, and interpreting and using it for planning interventions. The purpose of combining rapid assessment with community response has been to improve both the methods and the linkage of those methods to community-based interventions and program development.<sup>23</sup> Properly used, this approach helps to address some of the distrust and resistance to participation in public health programs encountered in racial and ethnic minority communities, while also overcoming some of the problems of rapport building and cross-cultural applicability encountered when outsiders come into a community to do this type of assessment.<sup>24</sup>

### The HIV/AIDS Health Crisis in Racial and Ethnic Minority Communities

Since the HIV/AIDS epidemic began, more than 2 decades ago, the disease has had a significantly disproportionate impact on racial and ethnic minority populations, particularly Blacks and Hispanics.<sup>25</sup> Racial and ethnic populations account for 25% of the total US population, but represent more than 50% of the cumulative US AIDS cases.<sup>26,27</sup> AIDS case disparities have become particularly pronounced in recent years. By 1998, 65% of newly reported AIDS cases were among Black and Hispanic adults.<sup>28–30</sup> Hispanics account for 20% of the total new cases reported,<sup>28</sup> and Blacks represent 46% of all new AIDS cases.<sup>31</sup> Although downward trends in AIDS incidence and mortality have been reported for all racial and ethnic groups in the United States since 1996, the decline in AIDS incidence and mortality among Blacks has been less than that among other groups.<sup>32,33</sup> Both prevention and care remain suboptimal for Blacks, Hispanics, women, the uninsured, the Medicaid-insured, injection drug users, and persons who acquired HIV/AIDS through heterosexual contact.<sup>34</sup>

As a consequence of these conditions, in May 1998, the Congressional Black Caucus of the United States requested that the secretary of the US Department of Health and Human Services, Donna Shalala, declare the HIV/AIDS epidemic in the Black community a “public health emergency.”<sup>35</sup> In response to that request, President Clinton announced a comprehensive new initiative to improve the nation’s effectiveness in preventing and treating HIV/AIDS in Black, Hispanic, and other minority populations. That initiative is being continued by the current administration.

### Rapid Assessment, Response, and Evaluation (RARE): A Community-Based Technical Assistance Strategy

In 1999, The Office of Public Health and Science announced the availability of crisis response teams to provide technical assistance—training in rapid assessment, response, and evaluation (RARE) methodologies—to the localities most affected by HIV/AIDS.<sup>36</sup> The eligible cities were metropolitan statistical areas (MSAs) with (1) populations of 500 000 or greater, (2) 1500 or more living AIDS patients

among the African American and Hispanic adult populations, (3) at least 50% of living AIDS patients African Americans and Hispanics combined, and (4) a chief elected official who had, in collaboration with appropriate health officials, requested that the department of health and human services provide a crisis response team. Detroit, Philadelphia, and Miami were the first of 12 US metropolitan areas with large minority populations affected by HIV/AIDS that were selected to receive special technical assistance using a standardized, manual-based RARE approach.<sup>36</sup>

### The Logistical Structure of RARE

Elected local officials initiate the RARE process with a letter requesting assistance from the secretary of health and human services. Team members from the Office of HIV/AIDS Policy then meet with the community’s chief elected official or designee to review federal and local responsibilities for RARE, provide advice on creating a local RARE community working group, and assign staff to the field research team that will conduct the rapid assessment. This consultation is followed by a 1-day orientation with the locally appointed community working group to discuss their roles and to engage them in a process designed to guide the assessment in terms of selection of the key geographical areas, risk groups, and points of intervention that represent the leading edge of the HIV/AIDS epidemic in that city.<sup>37</sup> The RARE technical assistance team then provides on-site training in assessment methodologies, analysis of data, and preparation of reports for the working group and the chief elected officials.

The community RARE field team (consisting of 8 to 12 persons) works under the supervision of a lead ethnographer with experience in rapid assessment methods and analysis techniques. The field team conducts the field assessment and collects and analyzes the rapid assessment information (within 10 to 12 weeks). An “options action” plan, linking the assessment data findings to recommendations for interventions, is prepared and presented to the community RARE working group, which in turn reviews and prioritizes the elements of the plan for submission to the local chief elected official. The actions taken by various cities are described in this paper.

### METHODS

The RARE model<sup>38</sup> consists of design elements that address (1) community participation in the planning, design, conduct, reporting, and interpreting of RARE data; (2) the use of appropriate qualitative and quantitative sampling frames and sample sizes to provide valid and reliable data about ethnoepidemiological patterns of risk; (3) the use of an integrated set of methods to provide for the triangulation of data to allow confirmation from multiple methods and multiple informants to identify critical cultural perspectives and behavior patterns; (4) training and models for sound and systematic qualitative analysis; and (5) an evaluation component to describe local processes and determine the nature and both short- and long-term impact of project activities and findings. The set of methods allows communities to focus on community-selected geographic areas and on the context of risk across time and social space. Methodological strengths, weaknesses, and challenges to this form of rapid assessment have been identified, extensively discussed, and resolved in the scientific literature.<sup>14,15</sup>

The overall methodological mix used in rapid assessment varies somewhat in response to the question that is being explored, the cultural context of the issue, and the types of applications that are expected locally.<sup>39</sup> RARE follows a basic triangulation paradigm. The core RARE methods include focus group interviews, key-informant interviews, direct observations, mapping and geocoding, and rapid “street intercept” assessment interviews.<sup>38</sup>

The RARE core methods were selected for 3 reasons. First, they cover all of the primary data needs for the project, allowing for quick turnaround of intervention recommendations for the community decision-making process. Second, they produce data that can be summarized in the form of high-impact quotes, maps, pictures, and summaries in clear language that can be understood by all of the parties involved. There is no obfuscation by professional jargon. Third, they allow clear triangulation of findings by using multiple methods that provide reliability and validity checks on complementary data for each domain, within a scientifically defensible framework.

The RARE manuals and procedures include operating definitions related to the primary sampling issues and cultural domains that need to be covered, as well as an explication of the manuals' connections to intervention development. They identify the mix of methods and the sample considerations needed to collect defensible data. They also are flexibly organized, using methodological time juggling (mixing and matching methods and activities) to allow a project to run with very little downtime for the field research teams. This better organization makes the overall process efficient and shorter in duration than would otherwise be possible.

### Selecting the Assessment Focus

The RARE model requires the local community to identify the key geographic areas and groups that are the initial focus of the assessment. The working groups were cautioned that this type of assessment must be targeted and cannot be all things to all people, nor will it meet all of the local agendas at one time. Community working groups reviewed available local surveillance, epidemiological, planning, and project data and selected specific combinations of areas and groups believed to be regularly engaged in behaviors that put them at risk. Local knowledge and priorities in the working group were combined with available data sets to designate the initial targets for the rapid assessment. These discussions helped to narrow the choices from many competing local concerns to 1 or 2 priorities, and to further narrow broad geographic areas to specific neighborhoods that were the microenvironments of greatest risk.

Considerable variation was found in the racial and ethnic composition of the final target areas chosen in each city. The most diverse were in Miami, where the working group selected areas on the basis of cultural priorities, including Black, Haitian, and Hispanic communities. In the other 2 cities, the neighborhoods were relatively culturally homogeneous, and the focus was on African Americans who were engaged in specific risk activities (such as crack use) or high-risk sexual behaviors (including those of both men who have sex with men [MSM] and heterosexuals). In Detroit, the target group for 2 of

the selected neighborhoods was injection drug users, and in the third neighborhood, MSM were chosen. In Philadelphia, the focus was on crack users, with a special emphasis on crack-using women and on individuals engaged in sex-for-drugs and sex-for-money exchanges. In Miami, individuals focused on included crack users and those trading sex for drugs or money.

### Sampling

The RARE sampling strategy combines qualitative and quantitative sampling procedures appropriate to the specific method employed.<sup>39–41</sup> The primary strategy is designed to provide representative samples of cultural, rather than individual, variability within the population. These samples are drawn from nominated sample frames constructed of individuals who are known to have in-depth knowledge and experience in the areas being assessed. Three different groups of participants are included in the sample framework to identify areas of broad consensus as well as lack of consensus concerning HIV/AIDS risk, context, and intervention issues. These groups are (1) community spokespersons (political, policy, and community leaders), (2) service providers, and (3) community experts (individuals from at-risk and affected populations and individuals living in the targeted neighborhoods). The samples are designed to be representative of the range of views, values, beliefs, and risk behaviors found in the target neighborhoods or the city as a whole. This approach allows in-depth analysis of key conceptions and ideas found in target populations as well as an opportunity to assess the range of alternative conceptions and ideas in the community.

### Implementation of the Assessment

Field teams collected data at each site using 3 standardized manual-based assessment modules. The unifying areas of investigation across the 3 research modules and multiple methods were integrative questions about (1) people (“Who are the vulnerable populations, and what are the characteristics that make them vulnerable?”), (2) places (“Where are critical conditions and behaviors present, and in what context do they

occur?”), and (3) times (“What are the cycles of activity and the effects of time on people, locations, behaviors, and interventions?”). Teams also asked other integrative questions, including “Why does risk occur?” and “What strategies might be feasible to implement to prevent the further spread of HIV?” RARE field teams conducted a cumulative total, across the first 3 target cities, of 61 key informant interviews, 118 brief interviews (rapid assessment surveys) in the field, and 17 focus groups. They spent 737 person-hours conducting field observations in targeted neighborhoods.

### Analytic Framework

The analysis of the data followed standard qualitative and quantitative procedures based on guidelines from the RARE training and manuals. The interviews were transcribed, coded, reviewed, analyzed, and summarized for both consensus on key issues and cultural variability across the 3 informant groups (leader, provider, and community cultural expert). Initially, the sites were provided with training on and access to qualitative software. The primary choice of ethnographic data analysis software was AnSWR (Centers for Disease Control and Prevention, Atlanta, Ga), which can be downloaded for free from <http://www.cdc.gov/hiv/software/answer.htm>. However, local conditions varied so much that the choice of data management processes reverted to the preferences of the lead ethnographer for each site.

Teams recorded their observations on-site and organized the analysis according to the general questions asked in the assessment modules. Quantitative findings from the rapid assessment surveys were summarized using descriptive statistics. Data were organized into 3 areas: (1) population mixing and mobility patterns as factors shaping local contexts of risk; (2) areas of AIDS and HIV misinformation and patterns of its variation across people, places, and times (to be targeted in local education and intervention campaigns); and (3) specific intervention needs at the local level. The Results section provides examples of valuable types of data across sites. It also provides examples of valuable types of single-site data for policy discussions.

## RESULTS

### Mixing and Mobility Patterns (People, Places, and Times)

The RARE field teams found it useful to frame project findings in terms of 3 intersecting concepts: people, places, and times. HIV risk tends to be greatest when particular kinds of people (e.g., those desiring commercial sex or willing to engage in risky drug use) congregate in specific local environments (e.g., places where sex and drugs are readily available) at regularly occurring times of the day or night. Table 1 provides examples of some of the dynamics of people, places, and times that were highly significant for the development of city-specific recommendations and intervention strategies. These examples are not exhaustive. The ones included are replicable findings from each site, with local variations that help target policy recommendations and program modifications.

More specific findings are presented by city and condition.

*People and places.* The RARE projects provided a framework for each field team to explore the physical environment, the community dynamics, and the critical cultural meanings of local space for high-risk populations. They provided the format for determining how space related to local risk behavior patterns and to potential intervention conditions. RARE field observations documented expectedly high rates of unoccupied or abandoned buildings and deserted cars, litter, and limited and uneven health and social services. It was common for some (but not all) of these areas to become late-night zones for intersecting illicit sex and drug economies. One of the common issues across sites was documenting the overlapping local underground economies of drug and sex trade and other locally addressable risk patterns for HIV transmission. The observed mixing patterns varied by location and community, but all included persons and groups engaged in various drug use practices, casual (and sometimes rapid) sexual encounters, and the mixing resulting from the intersections of these 2 income-generating strategies outside the legal economy. In some neighborhoods, the within-neighborhood mixing patterns or transmission dynamics were

complicated by commuters (persons from outside the neighborhood) who took advantage of the local availability of sex and drugs. In other locations, the patterns were all local or virtually all commuter-based.

The data indicate that very important local variations in the mixing and mobility patterns contributing to HIV risk are present that challenge local policies and program configurations. Specific neighborhoods were characterized by significantly different local and commuter mixing patterns involving (1) injection drug users who engage in sexual risk behaviors (unprotected sexual intercourse or trading sex for drugs); (2) noninjecting crack cocaine users who engage in sexual risk behaviors (trading sex for money, trading sex for drugs, trading drugs for sex); (3) commercial sex workers who trade sex for money or sex for drugs; and (4) persons from outside the geographical area—drug dealers, pimps, and commuters who enter the area to buy and sell drugs and sex. It should be noted that access to the populations for this study often required making arrangements with block or neighborhood “gatekeepers” to secure opportunities to observe and interview the high-risk populations. These gatekeepers included locally important residents, drug dealers, pimps, and others. These gatekeepers will also be important in determining the success of the planned interventions for these communities.

The drug and sex connections were strongly associated with identifiable kinds of places within each of the neighborhoods. The risk–people–place connections form risk zones within parks or other open areas, sets of abandoned buildings, individual homes, or particular street corners. They constitute microepicenters of HIV risk that drive local epidemics but that are below the normal data collection radar, which is targeted at zip codes, census tracts, or entire communities. These key social locations constitute the moving edge of the HIV/AIDS epidemic, one that is commonly missed by existing public health efforts. For example, in Miami, several sites within the Little Haiti area were identified as pivotal centers of sex-for-drugs transactions. Customers seeking commercial sex were found to drive to these often nondescript and relatively hidden sites

from other parts of South Florida and from as far away as the Florida Keys. They come to these areas to seek sexual adventure with young, healthy-looking, impoverished sex workers.

Across the 3 cities, findings suggest that places of public risk are frequently socially invisible to outsiders and often to service providers. For example, one of the teams found a set of nondescript steps outside a brownstone residence that were locally known as “the High Steps.” Drug users were observed regularly sitting on these steps at night while taking drugs. However, neither this site nor the block it was located on were targeted for HIV prevention by existing programs because its role as a high-risk site was unknown to prevention workers.

In another site, 2 important meanings were given to 2 types of public places. The Philadelphia field teams were told that the parks “belong” to the prostitutes and that the drug dealers “own” the streets. Ordinary citizens are not safe in their own homes in some “risk pockets.” In other Philadelphia neighborhoods, crack use and sex combined in the parks to attract large numbers of women engaged in sex trade, which then brought commuters interested in sex and/or drugs. As the number of crack-using women increased, it was reported that the amount of money people would pay for sex decreased, and the number of sexual encounters the women had to have to “break even” financially increased in a cycle of constant risk elevation in these locations.

*Places and service providers.* Another finding on the importance of place emerged from RARE focus groups, key-informant interviews, and project dialogs between cultural experts and service providers. These methods frequently identified local concerns about the territoriality of service providers. The existing social service system can produce severe competition between service providers. That competition is often expressed through mission-specific perspectives that are defined by populations and geography. Some local providers feel that they are excluded from specific spaces that are vital to their mission because other programs informally “own” specific community locations (e.g., catchment areas) or target populations and seek to pro-

TABLE 1—Examples of Mixing Patterns (People, Places, and Times) Used by Sample Neighborhoods to Frame Actions

	N1 (Miami)	N2 (Miami)	N3 (Miami)	N4 (Miami)	N5 (Philadelphia)	N6 (Philadelphia)	N7 (Detroit)	N8 (Detroit)	N9 (Detroit)
<b>People</b>									
Mixing of risk groups	Sex for money (mostly female)	Sex for drugs (crack) and money	Crack use and trading sex for drugs	Crack users trading sex for money used to obtain drugs (mostly male)	Crack users trading sex for drugs or money	Crack users trading sex for drugs or money	IDUs injecting heroin	IDUs injecting heroin and some crack	Male and female sex workers
	Sex for drugs (crack)	Some heroin injection	Commercial sex—females and MSM	Sex workers using crack (mostly male)	Commercial sex workers trading sex for drugs	Commercial sex workers trading sex for drugs	Commercial sex work	IDUs exchanging sex for drugs and money	Drug trafficking and drug use
	IDUs injecting heroin and crack	Both men and women selling sex for drugs	trading sex for drugs		MSM trading sex for crack	MSM trading sex for crack	Some crack		
		Mostly MSMs buying sex or exchanging sex for drugs							
					IDUs injecting heroin and smoking crack				
<b>Mobility</b>									
Customers commuting in for sex	Customers commuting in for sex	Some commuting in for sex	Most customers are local with some commuting in for drugs and sex	Sex workers and clients commuting in for sex	Some commuting in for sex and drugs	Substantial commuting in for sex, less for drugs	Some commuting in for sex and drugs	Some commuting in for sex and drugs	Commuting in from all over the metropolitan area for sex
<b>Places</b>									
Park (sex for money and drugs), crack houses, <i>macrels</i> (a Haitian Creole word for transit houses)	Park (sex for money and drugs), crack houses, <i>macrels</i> (a Haitian Creole word for transit houses)	Park, crack houses	Park, crack houses, bus stops, library	Crack houses, abandoned buildings, cars, adult bookstores	Abandoned buildings, crack houses, hotel rooms (rented by the hour), cars	Park, cars, hotels, abandoned buildings	Parks, cars, hotels, vacant buildings, hotel rooms (rented by the hour)	Liquor store (convenience store) vacant buildings, cars	Park, cars, bars, adult bookstores
<b>Times</b>									
24 hours (crack houses)	24 hours (crack houses)	Sunrise to sunset (park)	24 hours (crack houses)	Sunrise to sunset (park, abandoned buildings, cars)	Midnight to 8:00 AM (sex for crack)	Midnight to 8:00 AM (sex for money)	Late night/24 hours (crack houses)	Until 11:00 PM (most activity during liquor store hours)	Late evening (after park closes)
Late night (sex and drugs in the park)	Late night (sex and drugs in the park)	24 hours (crack houses)		Late afternoon (bookstores)	Midnight to 8:00 AM and 5:00 PM to 10:00 PM (sex for money)	6:00 PM to 8:00 PM		Late evening/early morning (activity in apartments)	Early evening (bars)
									Early morning (cars)

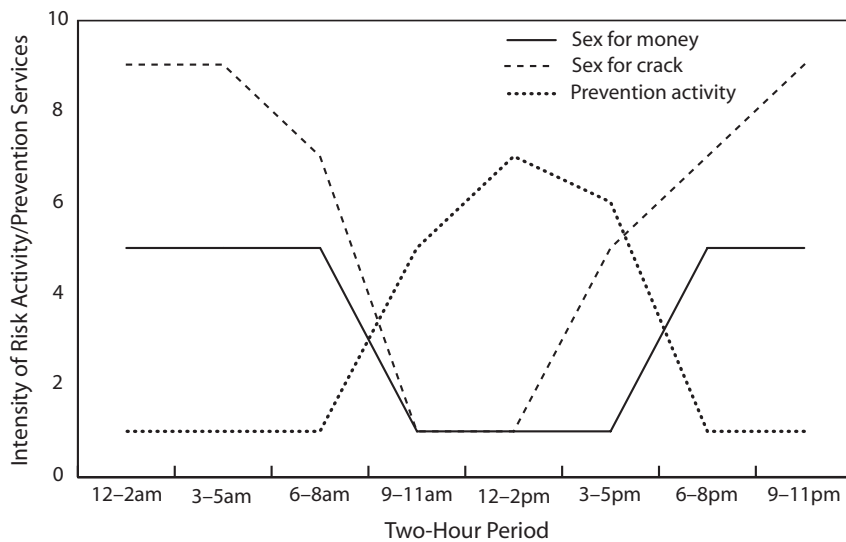
Note. N1–N9 = neighborhood area within selected zip code for city; IDUs = injection drug users; MSM = men who have sex with men.

tect those territories and populations to maintain the “numbers” reported by their program to funding sources.

A converse problem also surfaced in terms of service providers having inadequate information on the existence of risk pockets. When persons at risk and service providers were asked about the locations at which specific risk behaviors frequently occurred, the former described precise locations by block and risk and listed a wide range of places. Service providers, on the other hand, tended to mention relatively few places and often gave nonspecific responses such as “everywhere” or “anywhere people gather.” Examining these differences in the focus and detail of risk venues is a valuable strategy for improving the efficiency of intervention programs for these communities.

*Times.* One of the more interesting and important findings from the RARE field studies was a rediscovery of, or a reemphasis on, the need to identify the time-based patterns of activities that have an impact on HIV risk and risk reduction. It is common for ethnographic studies to identify the importance of time cycles in human lives, but this aspect of risk and risk reduction has received minimal description and exploration in the HIV/AIDS literature. The RARE teams were able to document daily cycles of risk, weekly and monthly changes in the contextual conditions that affect HIV transmission, and even seasonal changes that have a direct influence on the structure of service delivery systems.

RARE field teams focused on patterns of “risk time” and patterns of “service provider time.” Risk times varied across neighborhoods. In general, risk occurred over a 24-hour period, but with significant variation in the mix of both the amount and the type of risk during that cycle. In many cases, the periods of highest risk were observed to occur from sunset to sunrise, particularly where the venues of risk were parks or abandoned lots and streets. Risk reflected temporal and locational shifting within a neighborhood over a 24-hour period. Because most of the public health intervention and treatment programs provided services during the day, closing at 5:00 PM or relatively early in the evening, they were not open at times of greatest risk.



**FIGURE 1—Observational data on levels of risk and prevention activity for a neighborhood.**

The RARE data identified significant mismatches between risk time and service provider time patterns over the 24-hour cycle in all 3 cities. Figure 1 illustrates 24-hour cycles in levels of risk activity (trading sex for money or crack) in 1 target city, superimposed upon the availability of street (and storefront) prevention activities. These data were generally representative of the findings for the other 2 cities as well, although local differences were observed that suggest the need for local data collection, policy, and program responses.

The RARE field teams found several significant discrepancies between service provider time and risk time. Many individuals interviewed at later-night sites reported that they were unaware of HIV/AIDS outreach and prevention programs, despite the fact that these sites were in cities in which those efforts were extensive and comprehensive. Team members collected repeated reports from individuals engaged in risk behaviors that services were not available in their local neighborhood. Not infrequently, such claims were made in the face of direct field team observations to the contrary at other time periods in the 24-hour cycle.

The key issue, it became apparent, was the temporal disconnect between the hours of program operation and the times when

people came out of their residences or into the neighborhood to engage in risk behaviors. For example, the projects found that populations involved in crack use and commercial sex associated with the crack trade worked at night and slept during the day, whereas prevention services were provided only during normal office hours (8:00 AM to 5:00 PM). As a result, individuals engaged in high-risk behavior had never seen prevention efforts, never heard prevention messages, and assumed that such services were not available locally. Conversely, much of the risk behavior examined by RARE field teams was outside the immediate awareness of service providers, who—unless they lived in high-risk neighborhoods—did not normally witness after-hours and late-night intersections of the commercial sex and illicit drug economies.

RARE teams also successfully identified time patterns at individual risk sites in each participating city. In several cities, parks were foci for risk. However, those parks were not risky throughout the day. Some of the parks were near business centers—schoolchildren walked safely through the parks in the morning, middle-class white-collar workers ate lunch or jogged in them at noon, and tourists wandered through them until dusk. Later in the evening, the parks became risk centers,

with a highly active sex worker (both male and female) trade or open-air drug “shooting galleries.”

In another case, the center of the neighborhood was home to a convenience store that gave new meaning to the term *full service*. The store sold food and snacks, condoms, and a variety of everyday consumer items. Workers could cash their paychecks there or pick up food or beverages before heading home from work. However, as a study participant explained, a customer could also cash someone else’s (stolen) check, buy illicit drugs, and arrange sex-for-drugs deals, all at the same location. When this store closed, at around 10:00 PM, all of the risk-taking activity it attracted dispersed into less visible locations around the neighborhood. In effect, risk activity occurred around the clock: from 7:00 AM to 10:00 PM at the store, and from 10:00 PM until 7:00 the following morning in the nearby streets and alleyways. This temporal and locational shifting of risk within the neighborhood and the 24-hour high-activity nature of risk had not been brought to the awareness of local public health officials until detected through field-based strategies.

In a number of cases, the time dimension of risk taking was directly related to the cyclical nature of policing neighborhoods. This included moving people out and changing the context and dynamics of neighborhoods. The police in each of the cities had limited personnel resources and tended to concentrate them on known problem spots. This pattern produced a risk response. In some cases, concentrated policing in 1 area successfully destroyed the drug or sex risk infrastructure at a particular location. The result was that risks moved elsewhere, either temporarily or permanently. The temporary movement patterns were those in which the drug dealers, prostitutes, and MSM stayed in the same place but rescheduled their activities for later (or earlier) time slots, in which they had observed reduced patrols or police activity. The permanent movement responses usually changed the location of the risk activity from a patrolled park to one that was unpatrolled, or from a vacant lot where the bushes were cut down to another lot a couple of blocks away where no cutting had occurred. In some cases, the new sites were only a block away

from the earlier sites. In others, the new site was in another neighborhood or another town connected by some form of commuter access (rapid transit, car).

In one case, the RARE field team observed a park that was regularly patrolled by police. The park had a reputation for being a high-use public-sex gathering place for MSM. At the beginning of the observation, no one was visible in the park. Presently a police car drove by, shining its lights into the trees and grassy areas in the park, with no one being visible. Five minutes later, a second patrol car conducted the same drive-by procedure. Once the second car had driven down the block, the park came alive, with a couple of dozen people moving from behind trees or out of the long grass. The patrol had become such a regularly scheduled event that it was factored into both the risk and the thrill of the sex venue.

In another location, police action had closed down much of the drug activity in the central city, causing the drug dealers to move to a small suburb that had only 5 police for the entire town. The town included a rapid-transit stop, and a couple of locations near that exit became 24-hour-a-day drug sales venues that were particularly popular late at night, when drugs were hard to find in other locations. These and other time-focused data showed that law enforcement interventions that did not take into account public health policy and issues sometimes disrupted risk behavior but rarely eliminated it. This combination of locations and the people who used them included an adaptive component that allowed risk behavior to regenerate at different times or in different places. One of the effects of law enforcement on public health intervention was to make risk more dispersed, and thus more problematic. To the extent that law enforcement activities disrupted routines and opportunities to conduct efficient public health interventions, they created tension and conflict that resulted in increased discord among public health and public safety organizations.

### Cultural Knowledge, Information, and Misinformation

One of the key areas that was explored by each RARE field team was strongly held beliefs within the community about risk taking

in each neighborhood.<sup>42,43</sup> In some cases, it was found that general HIV/AIDS educational programs had been effective and that knowledge of the causes of HIV infection and AIDS was widespread. For example, generic messages about unprotected sex and the risks of sharing drug injection needles were very well distributed throughout the population. A large number of local cultural interpretations of this information and strongly held beliefs were found that ran counter to the information being disseminated by public health prevention and intervention programs. These beliefs were used to justify risky behavior. For example, the primary condom message is “Always use condoms,” but both logic and the critical need to maintain good social and sexual relationships transformed that message, on the street, into “Use condoms with strangers or people you think might be infected, but you don’t need them with people who look okay or people you know.” With commercial sex workers, the message changed into “Use condoms with all of your johns, unless they pay you more to not use a condom.”

Many of these beliefs arose from partial understanding or cultural reinterpretations of public messages, media presentations of scientific discoveries, and public service announcements. These public statements were interpreted as supporting the behaviors that people wanted to engage in or needed to rationalize to reduce anxiety about risky conditions. Many of these beliefs were cultural rules that provided a rationale for avoiding a universal application of risk elimination messages. Table 2 provides some examples of these types of beliefs in Miami. Varying forms of these beliefs and others that were locally relevant were also found in the other 2 cities.

These beliefs were firmly entrenched in the communities and formed a key barrier to the acceptance of both prevention messages and intervention recommendations. RARE was particularly valuable in collecting information regarding such beliefs that could be used immediately both to localize intervention and prevention messages and to overcome the impact of partial, misinterpreted, or missing information about HIV/AIDS in minority communities.

**TABLE 2—Examples of Strongly Held Beliefs Related to AIDS**

Belief	Neighborhood Collected	Respondent
A man having sex with a woman who is known to be “decent” can be safe without a condom	N2 (Miami)	African American male
A man having sex with a woman who is known to be “decent” can be safe without a condom	N2 (Miami)	Haitian male
Men who only use crack and do not inject drugs can be “safe” sexual partners without use of condoms	N2 (Miami)	African American female (sex worker)
Doubling of condoms adds protection	N3 (Miami)	African American female (sex worker)
Exchange of saliva can transmit HIV infection	N3 (Miami)	African American female (sex worker)
A Haitian man should use a condom with an African American female, but does not have to do so with a Haitian female	N1 (Miami)	Haitian male
If you present for HIV testing or AIDS services and have no legal immigration status, you will be deported	N4 (Miami)	Honduran male (sex worker)
Once you have AIDS, it's no use treating it	N4 (Miami)	Honduran male (sex worker)

*Note.* Strongly held beliefs are culturally valid and are therefore the basis for people's actions. The beliefs described in this study were selected to highlight the cross-cultural differences between strongly held beliefs on the street and strongly held beliefs in public health. They are examples of issues for which public health interventions will have to deal with local beliefs, irrespective of their scientific validity, if the public health programs want to succeed. N1–N4 = neighborhood area within selected zip code for city.

## DISCUSSION

RARE methodologies can provide a means through which municipalities can augment the role played by public health research in curtailing the HIV/AIDS epidemic. Seizing this opportunity has become crucial at a time when HIV/AIDS-affected populations are more and more cut off from mainstream medical services. The predominance of minority populations, injection drug users, and women in the expanding component of the HIV/AIDS epidemic speaks strongly to the need for developing more effective strategies to reach these populations.

RARE methodologies create a process that enables public health officials and the community to define or redefine the local importance of people, place, and time configurations. Clarification of the interplay of a population with specific sites, times of high-risk activity, and perceptions that motivate behavior allows public health departments to more strategically align their prevention interventions and medical service systems with the portions of their populations that are participating in the highest-risk behaviors. We believe that this added ability to correctly characterize the expanding edge of the epidemic

in our most heavily affected cities will allow for further reductions in new seroconversions.

As this review of RARE findings demonstrates, prevention and intervention should be responsive to the people–place–time configurations in any local setting. RARE data confirm that patterns of risk and potential for HIV transmission are not distributed evenly throughout large geographic areas (zip codes). Concentrated and intense risk was found to be present in what 1 site designated as risk pockets (i.e., microepicenters of HIV risk), with nearby blocks being characterized by comparatively low risk at any point in time. The RARE approach allows public health programs to monitor the tendency of risk pockets to shift over time in response to increased police activity and the economics of risks.

RARE has led to the discovery of new risk patterns previously unknown locally, such as initiation of injection drug use in cultural groups not known to engage in that behavior. It has also led to identification of conditions that were generically known locally, but not clearly described. RARE has provided critical additional information tied directly to specific locations and neighborhoods and has aided in the creation of models of risk monitoring and the identification of the types of intervention

infrastructure needed to address changes in populations, risk venues, and risk behaviors that emerge over time.

RARE methodologies substantiate that current patterns of risk tend to be focused in smaller geographic areas rather than larger ones such as zip codes. These smaller locations contain considerable microlevel variation—both within and across cities—associated with differing configurations of the intersecting underground economies of sex and drugs. The data indicate that high-risk drug and sexual behavior result in local and commuter mixing of risk groups and produce concurrent and sequential exposure to multiple and overlapping HIV transmission risk among “bridge populations.”

The individual city studies identify a combination of public and private venues, each of which must be recognized and understood in terms of negotiating or engaging in risk behavior. These studies suggest different intervention strategies and different placement of services. The data clearly demonstrate that risk occurs 24 hours a day and 7 days a week, with peak hours of activity occurring between sunset and sunrise. In contrast, existing prevention programs reach some individuals in target neighborhoods but not other individuals who are at equal or greater risk. Most services are unlinked, and providers are not cross-trained to respond to service needs outside their own limited intervention focus (e.g., drug abuse treatment, social services, HIV education). Service providers tend to target specific bounded areas while overlooking nearby areas equally in need of services. Services are also sometimes too widely distributed within a specified geographical target rather than being concentrated in microenvironments. RARE findings, in short, suggest that prevention efforts often are being stretched to fit wide areas rather than being geographically and programmatically targeted to the smaller locations of greatest need.

The RARE process also facilitates identification of specific local misinformation or lack of information about risk and services that need to be addressed by local services and efforts. At the same time, it reconfirms the existence of widespread mistrust of the public health system, providers, and government. And RARE allows a thorough exploration of



the mismatch between times of high risk, places where people engage in risk behaviors, and provision of services.

RARE provides a microlevel strategy to rapidly obtain local-level information about quickly changing epidemic dynamics in small geographic areas. This process focuses attention on persons at risk, in the specific environments in which risk behaviors most frequently occur, at the times of day and night when risk is greatest. It also provides mechanisms that can link assessment data to the rapid deployment of new intervention strategies based on identified site- and culture-specific risk taking.

A number of locally configured responses emerged from the RARE process within the communities involved. Each city has begun the process of matching service provider times and places to the RARE-identified rhythms and risk patterns. The community working group recommendations included targeting interventions toward the geographical areas of highest risk at the times of greatest risk and providing sustained services. These communities are also considering the legal and health complications that may accompany the shift in pattern to matching risk with service time. These cities have decided that penetrating small geographic areas by providing low-threshold, multiple, and sustained noncategorical services (e.g., by risk group) to concentrated numbers of the at-risk population has the potential to limit HIV transmission. They have also decided that, where possible, creating targeted short-term service blitzes at peak risk times—such as providing mobile counseling and testing, condom distribution, and a range of services for drug users—has the probability of reaching the individuals at highest risk in the places of greatest risk, thereby limiting viral transmission. ■

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This article was accepted February 6, 2003.

### Contributors

R.H. Needle provided primary conceptualization and design to the project and contributed to the writing of the article. R.T. Trotter II provided the primary theory and methodological design for the RARE project, produced the RARE community and field team training manuals with R.H. Needle, conducted the basic field training, and was the lead contributor in writing and editing the article. M. Singer created the evaluation design for the Phase 1 cities of the RARE project, provided methodological expertise to the training and evaluation design for the project, and contributed to writing and editing the article. C. Bates was responsible for the community organizational aspects of the project, was engaged in the orientation process for each site at the community working group level, and made substantial contributions to the field team training process. J.B. Page was the lead ethnographer and analyst for the Miami RARE project and contributed to the writing and revision of the article. D. Metzger was the lead ethnographer for the Philadelphia RARE project, provided analysis of the Philadelphia data, and contributed to the writing and revision of the article. L.H. Marcelin was co-investigator for the Miami RARE project, contributed to the analysis and findings of the RARE project in Miami, and provided editorial input for materials presented in the article.

### Acknowledgments

The authors gratefully acknowledge the contributions to the RARE project of all of the community advisory panels, health department officials, and field teams, with special thanks to Eric Goosby, former Director of the Office of HIV/AIDS Policy, Dept of Health and Human Services; Deborah von Zinkernagel, Office of HIV/AIDS Policy; Evelyn Ullah, Miami-Dade Health Department; Patricia Bass, Philadelphia Health Department; Eric Perkins, University of Pennsylvania; Barbara Jones, Detroit Health Department; and Harry Simpson and Rene McCoy, University of Pennsylvania, Dept of Anthropology.

### Human Participant Protection

Ethical review of the research procedures was made the responsibility of each community, to provide the best fit between human subjects protection procedures and local community standards and concerns.

### References

1. Heaver R. *Participative Rural Appraisal: Potential Applications to Family Planning, Health and Nutrition Programs*. Washington, DC: World Bank, Asia Region; 1991.
2. Askew I, Tapsoba P, Ouedraogo Y, Viadro C, Bakouan D, Segbo P. Quality of care in family planning programmes: a rapid assessment in Burkina Faso. *Health Policy Plann*. 1993;8:19–32.
3. Agyepong IA, Bertha A, Dzikunu H, Manderson L. *The Malaria Manual*. Geneva, Switzerland: World Health Organization; 1995.
4. Lee T, Price M. Indicators and research methods

for rapid assessment of a tuberculosis control programme: case study of a rural area in South Africa. *Tuber Lung Dis*. 1995;76:441–449.

5. Almedom AM, Blumenthal U, Manderson L. *Hygiene Evaluation Procedures: Approaches and Methods for Assessing Water- and Sanitation-Related Hygiene Practices*. Boston, Mass: International Nutrition Foundation for Developing Countries; 1997.
6. Malilay J, Flanders WD, Brogan DA. Modified cluster sampling method for the rapid assessment of needs after a disaster. *Pan Am J Public Health*. 1997;2:7–12.
7. Stimpson GV, Fitch C, Rhodes T, eds. *The Rapid Assessment and Response Guide on Substance Use and Sexual Risk Behavior*. Geneva, Switzerland: World Health Organization/United Nations Joint Programme on HIV/AIDS; 1998.
8. Stimpson GV, Fitch C, Rhodes T, eds. *Rapid Assessment and Response Guide on Injecting Drug Use*. Geneva, Switzerland: World Health Organization; 1998.
9. Rhodes T, Stimpson GV, Fitch C, Ball A, Renton A. Rapid assessment, injecting drug use, and public health. *Lancet*. 1999;354:65–68.
10. Rhodes T, Ball A, Stimpson GV, et al. HIV infection associated with drug injecting in the newly independent states, eastern Europe: the social and economic context of epidemics. *Addiction*. 1999;94:1323–1336.
11. Adelekan M. Rapid assessment and response is an increasingly popular and useful method in sub-Saharan Africa. *Int J Drug Policy*. 2000;11.
12. Scrimshaw SCM, Hurtado E. *Rapid Assessment Procedures for Nutrition and Primary Health Care: Anthropological Approaches to Improving Programme Effectiveness*. Los Angeles, Calif: University of California Latin American Center Publications; 1987.
13. Bentley ME, Peltó GH, Straus WL, et al. Rapid ethnographic assessment: applications in a diarrhea management program. *Soc Sci Med*. 1988;27:107–116.
14. Trotter RT II, Needle RH, Goosby E, Bates C, Singer M. A methodological model for rapid assessment, response, and evaluation: the RARE program in public health. *Field Methods*. 2001;13(2):137–159.
15. Needle RH, Trotter RT II, Goosby E, Bates C, Von Zinkernagel D. Methodologically sound rapid assessment and response: providing timely data for policy development on drug use interventions. *Int J Drug Policy*. 2000;11:19–23.
16. Manderson L, Aaby P. An epidemic in the field? Rapid assessment procedures and health research. *Soc Sci Med*. 1992;35:839–850.
17. Manderson L, Aaby P. Can rapid anthropological procedures be applied to tropical diseases? *Health Policy Plann*. 1992;7:46–55.
18. Needle RH, Coyle SL, Genser SG, Trotter RT II. *Social Networks, Drug Abuse, and HIV Transmission*. Washington, DC: National Institute on Drug Abuse; 1995. NIDA Research Monograph Series, No 151.
19. Trotter RT II, ed. *Multicultural AIDS Prevention Programs*. New York, NY: Haworth Press; 1996.
20. Marshall PL, Singer M, Clatts MC. *Integrating Cultural, Observational, and Epidemiological Approaches in the Prevention of Drug Abuse and HIV/AIDS*. Washington, DC: National Institute on Drug Abuse; 1999. NIH publication 99-4565.

21. Singer M. Studying hidden and hard-to-research populations. In: Schensul JJ, LeCompte MD, Trotter RT, Cromley EK, Singer M, eds. *Mapping Networks, Spatial Data, and Hidden Populations*. Walnut Creek, Calif: Altamira Press; 1999:1–36. The Ethnographer's Toolkit, Vol. 4.
22. Singer M, Stopka T, Siano C, et al. The social geography of AIDS and hepatitis risk: qualitative approaches for assessing local differences in sterile-syringe access among injection drug users. *Am J Public Health*. 2000;90:1049–1056.
23. Stimson GV, Fitch C, Rhodes T, Ball A. Rapid assessment and response: methods for developing public health responses to drug problems. *Drug Alcohol Rev*. 1999;18:317–325.
24. Singer M. Knowledge for use: anthropology and community-centered substance abuse research. *Soc Sci Med*. 1993;37:15–25.
25. Haverkos HW, Turner JF Jr, Moolchan ET, Cadet JL. Relative rates of AIDS among racial/ethnic groups by exposure categories. *J Natl Med Assoc*. 1999;91:17–24.
26. US Census Bureau. *Statistical Abstract of the United States*. Washington, DC: US Census Bureau; 1998. 118th ed.
27. Centers for Disease Control and Prevention. *HIV AIDS Surveill Rep*. 1999;11(1).
28. Centers for Disease Control and Prevention. *HIV AIDS Surveill Rep*. 1999;11(2).
29. Centers for Disease Control and Prevention. *HIV AIDS Surveill Suppl Rep*. 1999;5(3).
30. Centers for Disease Control and Prevention. *HIV AIDS Surveill Mid-Year Rep*. 1999.
31. Smith DK. HIV disease as a cause of death for African Americans in 1987 and 1990. *J Natl Med Assoc*. 1992;84:481–487.
32. Centers for Disease Control and Prevention. *Trends in the HIV and AIDS Epidemic*. Atlanta, Ga: US Dept of Health and Human Services, Centers for Disease Control and Prevention; 1998.
33. Shapiro MF, Morton SC, McCaffrey DF, et al. Variations in the care of HIV-infected adults in the United States: results from the HIV Cost and Services Utilization Study. *JAMA*. 1999;281:2305–2315.
34. Clinton administration record on HIV/AIDS [fact sheet]. Washington, DC: US Dept of Health and Human Services; December 1, 2000. Available at: <http://www.hhs.gov/news/press/2000pres/00fsaids.html>. Accessed March 13, 2003.
35. Waters M. *Letter to Secretary of Department of Health and Human Services To Declare HIV/AIDS Crisis a Public Health Emergency*. Washington, DC: Congressional Black Caucus; May 15, 1998.
36. HHS announces three sites for special crisis response teams to battle HIV/AIDS in minority communities [press release]. Washington, DC: US Dept of Health and Human Services; June 16, 1999. Available at: <http://www.hhs.gov/news/press/1999pres/990616.html>. Accessed March 13, 2003.
37. Needle RH, Trotter RT II, Goosby E, Bates C, von Zinkernagel D. *Crisis Response Teams and Communities Combat HIV/AIDS in Racial and Ethnic Minority Populations: A Guide for Conducting Community-Based Rapid Assessment, Rapid Response, and Evaluation*. Washing-

ton, DC: US Dept of Health and Human Services, Office of HIV/AIDS Policy; 1999.

38. Trotter RT II, Needle RH. *Crisis Response Teams and Communities Combat HIV/AIDS in Racial and Ethnic Minority Populations: Rapid Assessment, Rapid Response, and Evaluation Field Assessment Training Workbook*. Washington, DC: US Dept of Health and Human Services, Office of HIV/AIDS Policy; 1999.
39. Trotter RT II, Schensul JJ. Methods in applied anthropology. In: Bernard HR, ed. *Handbook of Methods in Cultural Anthropology*. Walnut Creek, Calif: Altamira Press; 1998:691–736.
40. Johnson JC. *Selecting Ethnographic Informants*. Thousand Oaks, Calif: Sage Publications; 1990.
41. Watters JK, Biernacki P. Targeted sampling: options for the study of hidden populations. *Soc Problems*. 1989;36:416–430.
42. Page JB. Needle exchange and reduction of harm: an anthropological view. *Med Anthropol*. 1997;18:13–33.
43. Sterk CE. *Tricking and Tripping: Prostitution in the Era of AIDS*. Putnam Valley, NY: Social Change Press; 2000.



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