

# HIV/AIDS: An Ohio Community Assessment<sup>1</sup>

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**ABSTRACT.** To identify unmet education and prevention needs in a medium-sized Midwestern metropolitan community seven target populations were surveyed to determine AIDS/HIV knowledge levels, risk behaviors, and sources of information/services. Target groups included community youth, school youth, HIV-positive persons, women, gay/bisexual individuals, racial/ethnic groups, persons incarcerated and/or on probation with the criminal justice system, and substance users. Persons in the different target groups were surveyed using a standardized, self-administered survey instrument containing questions on demographics; HIV-related risk behavior; knowledge, attitudes, and beliefs about HIV; and questions tailored for the various target groups. Responses were voluntary and anonymous. Data were analyzed based on frequency distribution and correlation. Findings suggested that knowledge about HIV and AIDS was relatively high among all groups; while the knowledge levels appeared to be high, respondents reported continued high risk behavior. Abstinence and condom use to reduce risk of HIV exposure were recognized as effective; yet neither abstinence nor condom use was reported as common practice by the respondents, even the HIV-positive respondents. Since it appears that education is failing to effect change, a new approach to bring HIV/AIDS risk reduction to a more personal level must be examined and implemented.

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## INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) is a contagious fatal disease caused by an infection with the Human Immunodeficiency Virus (HIV). AIDS was first identified over a decade ago; according to the Center for Disease Control (CDC) as of January 1994 (1994), it had reached nearly epidemic proportions with a recorded world total of over 22.2 million people infected with HIV. As of September 1994, in the United States, approximately 424,000 individuals had AIDS; CDC reported as many as three to six million Americans were HIV-positive (Center for Disease Control 1994). Since there is no known cure, the only viable method of preventing the spread of HIV infection is to adapt practices which would reduce risk behavior associated with the spread of the disease.

National data suggest that the largest percentage (65%) of AIDS is within the 20 to 39 age range (Center for Disease Control 1994); in overall reported AIDS cases those cases among males (87%) clearly outnumber females (Center for Disease Control 1994). Demographic characteristics of persons reported to have AIDS in Ohio closely resemble those reported nationally.

According to the Lucas County Health Department, the overall rate of HIV infection in that county is unknown; however, estimates are that within Lucas County the HIV rate of infection is approximately one per 350,500 residents (Rutt and Walter 1994). The health department further estimates that incidence of HIV is about 50 new infections per year. One troubling aspect of the HIV incidence rate concerns the high teen birthrate (highest among Ohio's 88 counties). This likely reflects a high rate of sexual activity and limited use of birth control measures, especially condom use. Additionally, in Lucas

County the rate of sexually transmitted diseases (STDs), specifically syphilis, is approximately double the overall state rate and triple the national rate.

Lucas County AIDS cases represent an epidemiological rate that is approximately the same as that of the State of Ohio and approximately one-half the overall U.S. rate of AIDS cases (Centers for Disease Control 1994, Ohio Department of Health 1996). When viewed by the exposure category male-to-male sexual contact, the rates are 54% nationwide ( $N = 193,182$ ), 69% for Ohio ( $N = 3,966$ ), and 69% Lucas County ( $N = 184$ ). This category represents the largest single exposure category for adults and adolescents. The second highest exposure category is intravenous (IV) drug use. The overall percentage of AIDS cases in the U.S. for this category is 24% ( $N = 86,961$ ). AIDS cases associated with IV drug use in Ohio represent 10% ( $N = 650$ ); while in Lucas County, the AIDS cases related to IV drug use are 9% ( $N = 23$ ). The Lucas County data are approximately one-quarter of those of U.S. metropolitan areas with populations of less than 500,000, and about the same rate as non-metropolitan areas with populations of less than 50,000 (Centers for Disease Control 1994).

In response to growing awareness and strong community concern the government of Lucas County, a northwestern Ohio metropolitan county, via its health department, professional groups, agencies, businesses, and community-minded individuals, sought to address many AIDS/HIV issues. Details concerning the process of a collaborative community effort to conduct an HIV/AIDS needs assessment and collect data from several target groups are summarized herein. The purpose of the needs assessment was to establish current levels of knowledge, identify risk behaviors, and determine the scope of current services. It was believed that a community survey could be utilized to develop education and services to address unmet needs in the community.

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## MATERIALS AND METHODS

Undertaking a survey project that encompasses an entire community requires the collaborative efforts of numerous organizations, agencies, and individuals. Such was the case in this project funded by a United States Conference of Mayors (USCM) grant to the Lucas County Health Department. The initial work involved organizing an HIV planning council that included several work groups and over 70 community members (Rutt and Walter 1994). In addition, two faculty members from Bowling Green State University (BGSU) were involved since their expertise was central to the development of research tools and the analysis of the data collected.

The initial community planning activities identified target population areas for assessment to include persons at high or potential risk, i.e., substance users, gay and bisexual persons, youth at risk, women and men at risk, racial/ethnic populations, and persons with HIV. Each of the groups was considered to be a primary target of concern, thus requiring specific intervention activities to combat the spread of HIV infection.

Three important HIV research areas to consider were identified in terms of problem conceptualization among diverse groups. The first area was establishment of basic information regarding sexual beliefs, attitudes, behaviors, and knowledge. Secondly, it was necessary to gain information about HIV status in all groups; and, finally, establishment of the role of the environment, economy, and social status variables, i.e., income, tangible support systems, employment, all of which may be related to HIV risk, was necessary. Each group targeted for assessment in this study had distinct patterns of behavior, attitudes, and beliefs that effect illness and health care.

### Target Population Sampling and Methodology

The target populations provided a challenge that required development of population specific data collection instruments. Survey instruments were developed that could be self-administered and yield usable qualitative and quantitative data. Questions containing phrases and words sensitive to each target population were developed resulting in survey instruments for each of the following groups: 1) substance users, 2) gay/bisexual persons, 3) women at risk, 4) middle school students, 5) high school students, 6) other at-risk community youth, and 7) persons with HIV. When possible, findings from past surveys were reviewed in order to increase the confidence level and comprehensiveness of the final survey instruments.

The instruments were constructed based on a theoretical model that supports overall common knowledge about the spread of HIV infection and from an ongoing attitude and risk behavior survey used at Bowling Green State University (Adams et al. 1990, Adams et al. 1993).

Core questions addressed demographics; concern about HIV/AIDS; knowledge about HIV/AIDS; risk behavior related to HIV transmission; HIV antibody testing; change in risk behavior; perceptions of communication effectiveness; information desired; and social norms. Distinctive questions were added to enhance the ability of the survey to address specific target groups. For

example, twelve additional questions designed to assess drug use, including alcohol and injection drug use, treatment issues, and other drug related activity that could increase the potential for spreading HIV infection, were added to the substance users instrument.

In order to assess salience of HIV/AIDS in the high school and middle school youth, questions were asked about perception of risk and actual risk behaviors. Because of the age differentials in the youth populations in the middle school and high school samples, direct inquiries about sexual behavior were limited by the school administration. One general area of inquiry among the school sample was "intention to have sex" and "efficacy of preventive behaviors." Specific questions regarding parental communication and sex were included in the youth survey.

### Collection of Data

The target population instruments were distributed and collected through the 24 collaborating agencies, some of whom had been active in the initial and ongoing survey planning process. Respondent participation was voluntary and anonymity was maintained. Data were collected from 392 males who frequented gay bars and other establishments catering to the gay population. Data from 307 substance users were collected through private and public counseling and treatment agencies, a county correction center, and a minority outreach center. The youth component of the community HIV/AIDS assessment focused on three groups of youth within the county; respondents included 554 middle school youth, 880 high school youth, and 133 community youth. Data were collected from several sources including: city and county public schools, Juvenile Court, Ohio Department of Youth Services, and two social services agencies that provide services to community youth. As with other respondents to the community assessment survey, those who participated did so voluntarily and anonymity was maintained. The data from HIV positive individuals were collected with the assistance of David's House, an organization devoted entirely to services for HIV infected persons; survey questions were mailed to 166 individuals, with 60 returning the surveys. All other target group participants completed the surveys at the agency/school.

## RESULTS

### Characteristics of Survey Target Group Respondents

These data help to describe the epidemiology of HIV/AIDS in Lucas County and to define the breach between knowledge and behavior modification in the at-risk target groups selected for the study. Specific survey findings by target population included a summary of demographics, knowledge, attitudes, beliefs, and risk related behaviors associated with HIV.

Respondents in this study included slightly more males (54%) than females (46%), and approximately twice as many white respondents (62%) as non-white (African-American, 28%; Hispanic, 6%; other, 5%). Target group data were examined for differences in terms of

gender, age, and ethnicity (Table 1). The gay/bisexual respondents and persons with HIV were mostly white. This was consistent with the school respondents; however, among community youth and substance abusers there were more African-American than white respondents.

**Gay/Bisexual Males:** Based on their personal assessment, the 392 responding gay/bisexual males reported heavy involvement with HIV/AIDS issues. Almost all reported being personally acquainted with or knowing someone with HIV/AIDS, and 19 (5%) reported that they themselves were HIV positive. Gay/bisexual orientation was self-determined and self-reported. Among gay/bisexual males 43% reported that they worried about getting AIDS and 86% said that reducing their risk of getting AIDS was very important. When asked about *their perception of risk*, only 25% indicated they were at high or medium risk for contracting HIV; while 62% indicated they were at low risk. Regarding the number of sex partners, 68% said they had had at least two sexual partners in the past year. Additionally, 25% said they never or rarely used condoms with someone other than their main sex partner. Further, over half of the respondents reported an intention to change behavior, i.e., limit alcohol use (90%), reduce the number of sexual partners (81%), increase condom use (73%), and change types of sexual activities (58%).

**Substance Users:** Most of the 307 respondents in the substance users group were in some stage of treatment for alcohol and/or drug abuse. As expected, the most frequently reported substance of use was alcohol, reported to be used at least weekly by 40% of the respondents. Cocaine/crack was the second highest (24%) reported substance used in the past year, while marijuana was third highest (18%) among substances used in the past year. Gender differences showed slightly

more males (68%) in this target group. Ethnicity distribution revealed respondents as African-American, 49%; white, 41%; Hispanic, 5%; and other, 5%. Most (62%) reported having a high school diploma or less. Six percent of males and 11% of females reported being either homosexual or bisexual.

HIV/AIDS was shown to be a salient issue among substance users in this survey. When asked, "How much do you worry about AIDS?", 31% indicated they worried *somewhat*, while 33% said they worried *a great deal* about HIV/AIDS. Both males and females indicated they "had heard of the AIDS virus called HIV" (91% male; 90% female); knew there was "a blood test to detect the disease" (95% both genders); said it could be contracted "from someone who looks healthy" (90% male; 88% female); reported "washing after sex" was of limited value in preventing the spread of the HIV virus (82% male; 85% female); and said "sharing needles to shoot drugs" was a high risk behavior (98% both genders). Activities such as unprotected sex (vaginal, oral, and anal) were identified as extremely risky by over 80% of all respondents in the sample. Consuming alcohol and not knowing past sexual history of one's partner were identified as a salient risk factor by over 90% of all respondents.

Information about the number of partners and types of relationship was gathered from this group. Data showed that 72% had a main sex partner, while 65% said they had two or more partners in the past year. Also, 31% indicated they engaged in sex outside their main relationship. Only 20% of substance users reported using a condom *always* when they had sex outside their main relationship; 55% said they did not know or were not sure about the likelihood of breakage when using *oil based lubricants* with condoms. Most reported

TABLE 1

*Lucas County survey respondent characteristics by target group.*

Target Group	Age Range	Median	Ethnicity/Race			
			White	AfAm	Hispanic	Other
Gay and bisexual N = 392 (Male = 392)	17-60	28	83%	7%	4%	7%
Substance users N = 307 (Male = 209, Female = 98)	18-60	30	41%	49%	5%	5%
Middle School N = 554 (Male = 260, Female = 294)	12-16	13	66%	23%	6%	5%
High School N = 880 (Male = 396, Female = 484)	15-18	16	66%	22%	7%	5%
Community Youth N = 133 (Male = 100, Female = 33)	12-19	14	37%	49%	7%	6%
Persons with HIV N = 60 (Male = 50, Female = 10)	21-66	34	65%	28%	3%	4%

substantial barriers to using condoms (Table 2). The data seemed to reveal that most who failed to use condoms did so because they were drunk or high (44% male; 48% female), did not think about it (57% male; 52% female), or did not have a condom when they needed one (56% male; 46% female).

TABLE 2

*Barriers to condom use among substance users.*

Reason stated for NOT using Condom	% Agreeing	
	Male (N = 205)	Female (N = 97)
I do not need a condom.	23%	37%
Using a condom is less fun.	58%	43%
Condoms fall off or break.	44%	43%
Don't have condom when needed.	56%	46%
Too high or too drunk.	44%	48%
Didn't think about it.	57%	52%

### High School, Middle School, and Community Youth:

The survey concerning HIV/AIDS was aimed at five main areas, i.e., knowledge and beliefs, salience of HIV/AIDS, risk behaviors, communication, and social norms. Except for those specifically identified as community youth where 75% were males, gender was generally equal between males and females (53% female and 47% male in middle school; 55% female and 45% male in high school); most were white in high school and middle school and most were African-American in the community youth group (Table 1).

Most youth had high levels of actual knowledge about HIV/AIDS. Data show a high percentage of high school, middle school, and community youth responding correctly

to a set of knowledge questions contained in the survey instruments relating to HIV/AIDS (Table 3). Nearly one-half (40%) of the community youth indicated worrying a great deal about getting HIV (Table 4); while fewer high school (21%) and middle school (29%) youth reported a great deal of worry.

Regarding the perception of effectiveness of abstinence, condom use, and reduced alcohol/drug use in preventing HIV/AIDS transmission, 77% of high school and 52% of middle school respondents reported abstinence as very effective; 27% of high school and 28% of middle school respondents reported condom use as very effective; and 24% of high school and 28% of middle school respondents reported reduced alcohol/drug use as very effective.

Most (89%) of the participants reported that they had received more HIV/AIDS information from school than any other source. However, over one-third said they had not received a formal class on HIV/AIDS. The second highest source of information about HIV/AIDS was identified as television (78%); while newspapers/magazines were third highest (69%). Most females (76%) indicated they would like more information about HIV/AIDS.

Parents as a source of information about HIV/AIDS provided some interesting findings. Among the middle school students, 66% of males and only 21% females responded yes to the statement "My parents have taught me what I need to know to protect myself from the AIDS virus"; 62% of high school students said their parents had given them enough information to protect them from the AIDS virus. Further analysis of responses about comfort in talking about sex revealed a fairly even distribution between males and females in all categories. This was not the case among community youth; more males (46%) compared to females (21%) said they were more comfortable talking to parents than to anyone else. More females (69%) than males (55%) said they were more comfortable talking to friends than to anyone else.

High school and middle school student responses to a set of three perceived social norm questions indicated

TABLE 3

*HIV/AIDS knowledge questions among high school, middle school, and community youth.*

Knowledge Statement	% Answering Yes		
	H.S. (N = 878)	M.S. (N = 548)	Community (N = 302)
Have you heard of the AIDS virus called HIV?	98%	98%	86%
There is a blood test that can tell if you have AIDS.	94%	89%	93%
You can get AIDS from someone who looks healthy.	90%	76%	88%
A person can get AIDS sharing needles to shoot drugs.	98%	97%	98%
A person can get AIDS by working with someone who has the AIDS virus.	3%	3%	4%
Washing after sex can prevent the spread of the AIDS virus.	3%	7%	10%
A person can get AIDS from being coughed on by an AIDS infected person.	2%	4%	5%
A person can have the AIDS virus and not have AIDS.	88%	69%	72%

TABLE 4

*Salience of HIV/AIDS among high school, middle school, and community youth.*

Question	H.S. (N = 877)	M.S. (N = 552)	Community (N = 132)
How much do you worry about getting the AIDS virus?			
A great deal	21%	29%	40%
Somewhat	23%	15%	19%
A little	35%	35%	32%
Not at all	21%	28%	9%

that more middle school students (33%) perceived that most of their friends believe abstinence is the right choice, while only 18% of high school students share this perception. Perceptions concerning the effectiveness of sexually active people reducing the number of partners was nearly the same in the two populations (31% middle school and 32% high school respondents). Perception of the use of condoms by sexually active people indicated a wide disparity; 92% of middle school youth believed sexually active people use condoms, while only 54% of high school respondents believed this.

Community youth were asked to respond to a similar set of social norm questions: 29% reported they believed it was important to reduce the number of partners. In addition, 77% indicated it was important to use condoms in order to reduce the spread of HIV/AIDS.

**Persons With HIV (David's House only):** Of the survey questionnaires mailed to 166 persons infected with HIV 36% (60) were returned completed. Approximately 65% of those agreeing to participate in the study were white; 83% were males. Sexual orientation was reported as homosexual by 65%, heterosexual by 23%, and bisexual by 10%. Additionally, 75% of the respondents reported Lucas County as their residence at the time of learning of their infection. In response to the question, "How do you think you got infected with HIV?", 71% of the males and 50% of the females said they were infected through sex with a male. At the time of the survey 45% had been diagnosed with AIDS. Approximately half (N = 27) of those infected with HIV/AIDS had never been hospitalized, 28% had been hospitalized at least once, and 26% had been hospitalized two or more times. Most (71%) said they had little or no trouble finding a doctor to treat them for the disease.

Fifty-eight percent of the HIV positive respondents reported sexual activity at least a few times per month since learning of their HIV infection. HIV infected persons were asked about the number of sex partners since learning of their infection; 40% reported 3-6 partners, 36% reported 1-2 partners, while 24% reported no sexual activity. In addition, 68% said they had a main sex partner with whom they continued to have sexual relations. Since learning of their HIV infection, 55% of HIV infected persons reported "always" using a condom with a main sex partner.

Finally, several questions pertaining to communications were asked. Of those with current sex partners, 89% said they had told their current partners about the HIV infection. Only 65% of those infected reported having notified former sex partners of their HIV infection. When asked "who knows about the infection," most said family (90%), friends (85%), and partner (84%). Interestingly, only about one-third indicated an employer or coworker had been told of the infection. Only 29% of the respondents in this group reported being offered a partner notification service, and less than half (43%) reported using the service.

## DISCUSSION

The gay/bisexual male respondents represent a lifestyle/group that is affected the most by HIV/AIDS. This may lend itself to several interpretations, e.g., a fatalistic view of behaviors associated with lifestyle; a denial that behavior associated with lifestyle is a high risk; a denial of lifestyle and/or behavior; or, a well-meaning intention to change that does not come to fruition. A fifth interpretation might be the age group (young adulthood) that signifies a peak of the sexual drive (Zastrow and Kirst-Ashman 1994). If perception of risk in this population is related to a reasonably high level of knowledge as reflected in the present survey, it does not appear to translate into low risk behavior. Over half reported having multiple partners, and a quarter indicated not using condoms. Basic HIV/AIDS knowledge level was high; and, most individuals expressed that they were at risk for contracting the disease.

The substance users, as a group, appeared to be at high risk for HIV infection and spreading the disease. Perhaps most disturbing were the general indications that: 1) condoms were not being used consistently; and, 2) multiple sexual partners were common. It is possible that the multiple sexual partners reported were in fact a series of monogamous relationships. Somewhat disturbing was that only 20% of substance users reported using a condom *always* when they had sex outside their main relationship; 55% said they did not know or were not sure about the likelihood of breakage when using *oil*. In addition, substance users' perceptions about riskiness of different activities in terms of spreading the HIV virus were very high.

DiClemente et al. (1992) reported a survey of 1,899 San Francisco Bay area junior high students in which 403 reported being sexually active. Most respondents in his study were male, minority, and most reflected typical teen sex behavior with high HIV/AIDS knowledge. Of the sexually active teens in the DiClemente study, 60% began their sexual activity at 12 years of age or earlier, and 21% reported six or more partners. Only 27% of those having multiple partners reported using condoms, and 36% of the sexually active used condoms rarely or never. An Ohio study (Adams 1990) of incoming college freshman described the high level of sexual activity at early ages and the failure of these youth to utilize condoms. Ongoing studies of college students and application of risk behavior modification learned through a specific AIDS curriculum indicates a high level of

knowledge, a high level of sexual activity, and little application of risk behavior modification learned during the classes (Schondel et al. 1991, Shields et al. 1992).

Many studies over the past several years have described the phenomenon of well-informed young people continuing to engage in risk behavior (Anderson et al. 1990, Biglan et al. 1990, Brown et al. 1992, DiClemente 1991). Consistent condom use has been reported to be unrelated to gender, age, or race (Anderson et al. 1990). DiClemente and Fisher (1992) reported that social influences made a more significant contribution to condom use than behavioral or demographic factors. Young people in general are more prone to risk behavior. It is argued that this is based on their psychosocial stage of development which gives them a false sense of being insulated from disastrous consequences (Shields and Adams 1995).

Overall basic facts about HIV transmission appear to be reaching most youth before they finish high school. The issues surrounding HIV/AIDS suggest that it is a relatively important concern among all youth surveyed. However, it appears in the present sample that females are slightly more concerned about issues related to HIV/AIDS than males. A critical aspect of the present survey was the determination of the extent to which knowledge and the salience of HIV/AIDS was reflected in risk behaviors, especially among youth. Most agreed that abstinence was important, condom use was effective in preventing the spread of HIV, and alcohol/drug use was a high risk behavior.

Youth provided interesting data regarding parental communication and sex. Males are generally thought to be more sexually aggressive, while females are believed to be less aggressive and more restrained in their development of sexual awareness (Zastrow and Kirst-Ashman 1994). Male middle school students were three times as likely as females to receive information from parents about protecting themselves from contracting HIV; while in high school, both genders indicated receiving this information.

Only about one-third of the school youth said they had not received a formal class on HIV/AIDS. Thus, the information was either in the context of an existing class or from a source other than a formal presentation. Overall, it appears that by the time young people are in high school they believe that their parents have provided much more information about the AIDS virus than other sources. The actual content of the information discussed by the young people and their parents was not determined. Youth in all three groups appear to be only minimally, or not at all, comfortable discussing sex with their parents.

The category defined as *social norms* asked youth to respond to several questions related to friends/peers whom they believed were, or might be, sexually active. It appeared as though social norms related to risk reduction and sexual behavior were not clear to many of the respondents. This relative uncertainty may have been an indication that, while there was comfort in discussing sex with peers, there was a relative lack of discussion among youth concerning sexual matters. There is some

disparity regarding the effect of abstinence, condom use, and reduction of alcohol use in the reduction of risk. Most youth report these as very effective; yet, in terms of social norms, the perception of peer activity seems to disregard abstinence, condom use, and alcohol use reduction.

The HIV-positive respondents reported being sexually active; yet, surprisingly, about three-fourths reported having multiple partners and only about half reported *always* using condoms with their main partners. Mandatory reporting and partner notification service in Ohio took effect in 1990. The finding that less than half of the respondents had utilized the service could be a reflection of the date these respondents became aware of their infection, or a desire to tell their partner personally, since 98% reported having told their partners.

Limitations associated with conducting the survey included limited access to a wider sampling base. This was further magnified by the limitations imposed by school officials regarding the intensity and explicitness of the questions. In addition the sampling procedure was somewhat problematic since distribution of the questionnaires was conducted only in a modified, random manner. Each of the target groups studied provided information that would be helpful in developing an integrated approach to the development of intervention programs. Since the clients surveyed did not represent a truly random sample, drawing conclusions could only be done with the idea that the data were a composite picture upon which to assess community needs. Thus, saying that findings relevant to youth who may be at risk were generalizable to all youth in the community was limited or inappropriate. The health department who distributed the survey did not provide a well defined mechanism for follow-up, thus some samples were much larger than others.

In summary, education seems to be successful in relation to verbalizing information; however, application of that information has been less successful. Preventive intervention coupled with educational programs has been successful in other applications, e.g., smoking (Farquhar et al. 1984). It is quite obvious that, as reported by the National Academy of Sciences (1986), education regarding AIDS and the transmission of HIV must not only be supported by, but must actively involve interdisciplinary professionals, i.e., doctors, nurses, public health persons, health care educators, scientific researchers, social workers, and teachers. Utilization of the expertise of individuals from various areas strengthens the strategy, the application, the analysis, and the determination of the final results and the successful intervention to stop the spread of AIDS and transmission of HIV. Connection of education, i.e., knowledge application, and resultant behavior modification is not always clear. Lack of clarity may be due to age, substance use, or socioeconomic status.

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