This pilot project attempted to understand and influence knowledge, attitudes, and practices (KAP) of individuals in order to decrease transmission of human immunodeficiency virus (HIV) in a black community. This predominantly low-income minority population had a high incidence of intravenous drug abuse (IVDA) and teenage pregnancies. The spread of HIV from IVDA to their sexual partners is a known mechanism for viral access to the larger, heterosexual, non-IVDA population. In order to understand the population to plan an educational intervention, the community's beliefs concerning the transmission and prevention of Acquired Immune Deficiency Syndrome (AIDS) were assessed. By using a population proportionate sampling technique, responses were obtained by high and low income subjects, teenagers, adults, and older people. Subjects (N=301) responded to questionnaires. The main findings of the report were: (1) nearly one in three black residents worried about AIDS all the time or several times a day while only one in 25 whites did; (2) two out of three people thought one could get AIDS from receiving blood and 43 percent thought one could get AIDS from donating blood; (3) 15 percent thought it was possible to catch AIDS by shaking hands; (4) 22 percent thought sharing needles with friends was not a risky behavior; (5) 28 percent did not think abstinence lowered risk; (6) 36 percent never use condoms; and (7) one of three would not refuse sex without a condom. The educational intervention will be designed based on survey results. The Dixwell AIDS questionnaire is appended. (ABL)
COMMUNITY-BASED OUTREACH FOR
AIDS EDUCATION IN NEW HAVEN, CONNECTICUT

Ann Kurth, MPH, RN and R. Champoux, RN
The Dixwell Neighborhood Corporation
Dixwell Preventative Health Program

Contact Person:
Ann Kurth, MPH, RN
Graduate Student
Yale School of Nursing
855 Howard Avenue
New Haven, CT 06532

© Nov. 14, 1988
In a sermon given at the Ebenezer Baptist Church on February 4, 1968, Dr. Martin Luther King, Jr. discussed the "dominant impulse" in humans. Freud, he said, argued that sex is the predominant drive. King, however, favored the psychoanalyst Alfred Adler's interpretation that the "desire to be first" was in fact the primary force shaping human behavior. Dr. King called this "the drum major instinct", and he eloquently described how it can be a powerful force in the development of a positive concern for and awareness of self and community.

The following research project is about instigating and nurturing this drive for enlightened self-interest and individual leadership - the "drum major instinct" - in the campaign against the AIDS epidemic. It is based on the premise that individuals, armed with knowledge, can act in the best interest of themselves and their community.

The research described herein intends to understand and influence knowledge, attitudes and practices (KAP) of individuals in order to decrease transmission of human immunodeficiency virus (HIV) in the black community. The pilot project area is the Dixwell neighborhood of New Haven, Connecticut. Dixwell is a geographically and demographically well-defined community of over 7,000 residents. This predominantly low-income minority population has a high incidence of intravenous drug abuse (IVDA) and teen pregnancies. The spread of HIV from IVDA to their sexual partners is a known mechanism for viral access to the larger heterosexual, non-IVDA population. Due to the existence of high-risk behavior related to sexual activities and needle use in the area, Dixwell neighborhood leaders in meetings begun in the fall of 1987 determined that educational intervention is paramount. From this, the AIDS education research/prevention campaign of the Dixwell Preventative Health Program (DPHP) of the Dixwell Neighborhood Corporation described in this paper was conceptualized.

TARGET POPULATION

The overall target population of the education effort is the black community of New Haven. Based on 1980 Census figures, approximately one-third of New Haven's 127,080 residents are black (although some experts believe the current figure is closer to 47%). Dixwell residents constitute the survey population.

The Dixwell population (n=7,000) is one of the youngest in New Haven, with a median age of 23.8 years (versus the city median of 28.1). The female to male ratio is 51.8% : 48.2%. Primary problems of the Dixwell neighborhood include high rates of unemployment (over 10%) and of single-parent households (43%). Dixwell's incidence of low birth weight and infant mortality is the highest in the city, with 32 deaths per every thousand live births versus the New Haven average of 16 per thousand.

The high rate of drug abuse is also a major problem for the neighborhood, as it is for the larger New Haven minority community. The alarming incidence of heterosexual AIDS cases in the city - especially the female cases - is attributed by experts to heavy intravenous drug usage. The director of the Connecticut chapter of the National
Association of Social Workers has called New Haven "the most affected city in New England" with regard to women, IV drug use, and AIDS.4

Economic factors exacerbate the public health problem in the black communities. In 1980 the median family income in Dixwell was $10,211 while the city-wide median was $14,993.

Unmet Needs

The scientific study of human sexual behaviors and successful approaches to influencing them is relatively new ground. Much of the work in the area has been concerned with questions of fertility control. Several programs of clinic and community-based outreach for AIDS-specific education have been tried thus far with IVDAs.5

However, at present comparatively little data document the results of neighborhood level education programs. The Dixwell Preventative Health Program will therefore add to the understanding of programmatic design and theory for reaching non-clinic populations.

Ample evidence exists from the gay community attesting to a change in sexual practises as a result of increased awareness.6 In 1986, however, the number of syphilis cases among urban heterosexuals rose dramatically.7 This indicates that the message of risk behaviors as opposed to risk groups has yet to sink in with the non-homosexual, non-IVDA population.

There is further evidence of the need for a well-tested community-based approach. In 1986 the Detroit Health Department designed a community health AIDS education program. They eventually found that their staff "lacked sufficient data on the beliefs and attitudes" of their target population and their program was ineffective until they brought in representative community members who jointly assumed responsibility for educating themselves and their neighbors.8 Recruiting, training, and supporting Dixwell and New Haven "drum majors" - those neighbors who will serve as peer educators - will be an integral part of the Dixwell Preventative Health Program.

Statement of the Problem

One out of every three people in New Haven are black. Yet two out of every three persons with AIDS in New Haven are black. Despite this fact, not a single locally initiated effort for AIDS prevention and education specifically in the black community has been funded to date; DPHP is the first black-initiated and run, grass-roots effort in New Haven.9

Perhaps the most telling indicator of unmet AIDS prevention in New Haven can be seen in the statistics themselves. New Haven's rate of AIDS cases is 24 per 100,000, the 13th highest in the nation.9 79% of AIDS cases in New Haven occur among black and Hispanic residents (versus 51% statewide10). Black residents account for 63% of these minority cases.
Women suffer 29% of all AIDS cases in New Haven, versus the national figure of 7%. In fact, Connecticut leads the nation in female AIDS cases, and New Haven leads Connecticut in these statistics: 36% of all women with AIDS and 41% of all pediatric cases in Connecticut are from New Haven.

Eighty-one percent of all female AIDS cases in New Haven are black, as are 91% of all pediatric AIDS cases.

According to State Commissioner of Health Frederick Adams, "In a worst case scenario, one in every 10 (black) males in New Haven could die of AIDS. That is a generation decimated." The Commissioner based his statement on a Department of Health study that pooled AIDS case data from seven Connecticut Towns and projected an estimated seroprevalence of 6 - 15% and 1.7 - 4.3% for black males and females, respectively.

RESEARCH DESIGN

DPHP believes that a program must understand people before it can hope to change behavior. For this reason we began our education campaign by assessing the community's beliefs concerning the transmission and prevention of AIDS by means of a knowledge, attitudes and practices (KAP) survey. The results of this survey will enable DPHP to design the most specific educational intervention for Dixwell. The essential hypothesis of this approach is that an educational intervention specifically designed with data from an initial KAP survey can positively affect people's behavior patterns. By involving target populations in their own KAP assessment and education, behavioral goals will be reinforced and a baseline for evaluation of the effectiveness of project measures will also be established.

Phase I - KAP survey

The questionnaire (see appendix) was designed during a focus group of community residents, who shared their perceptions and concerns. It was field-tested in January on an adult education class. By using a population proportionate sampling technique, DPHP obtained responses from both high and low income subjects, teens (aged 15 - 19), adults (20 - 34, 35 - 54 years) and older people (>55 years), following U.S. Census age categories. A minimum of thirty subjects (n=30) are drawn from each of the categories, for a total sample size of approximately 300 hundred or more.

Variables of interest in the instrument include: knowledge regarding modes of transmission, meaning of the HIV antibodies test, degree of AIDS concern, and practices of risk behaviors (especially contraceptive usage). The survey instrument was designed to test internal validity, such that the responses given will allow correlation between stated knowledge and indirect measures of behavior.
Sample Selection

Population proportionate sampling was utilized in the survey design of this KAP study. Data and age categories were drawn from the 1980 Census as follows:

Total Pop = 6944 (10% unemployment; median age = 23.8 yrs)

<table>
<thead>
<tr>
<th>Race</th>
<th>N</th>
<th>% of Total</th>
<th>% of &gt;15 Total</th>
<th>Sample Size Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>813</td>
<td>11.7%</td>
<td>16.7%</td>
<td>51 (17.0%) 15-19 y.o.</td>
</tr>
<tr>
<td>Black</td>
<td>5947</td>
<td>85.6%</td>
<td>39.5%</td>
<td>118 (39.0) 20-34 y.o.</td>
</tr>
<tr>
<td>Other</td>
<td>184</td>
<td>2.6%</td>
<td>23.5%</td>
<td>71 (23.5) 35-54 y.o.</td>
</tr>
</tbody>
</table>

≤ 15 year olds = 28.4% of Dixwell residents
> 15 year olds = 71.5% of Dixwell residents

Of the total Phase I survey n of 316, the age category breakdown was as follows:

<table>
<thead>
<tr>
<th>AGE</th>
<th>N</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>54</td>
<td>17.1%</td>
</tr>
<tr>
<td>20-34</td>
<td>125</td>
<td>39.7%</td>
</tr>
<tr>
<td>35-54</td>
<td>74</td>
<td>23.5%</td>
</tr>
<tr>
<td>&gt;55</td>
<td>61</td>
<td>19.4%</td>
</tr>
</tbody>
</table>

The median age was 36.6 years (black = 37.3 years, white = 28.9 years). The white population was 10% and the black population 90%, in accordance with Dixwell demography.

The surveying method used for the population (black n=285, white n=31) was as follows: the data collectors, two community professionals and a Yale graduate student, were instructed in the purposes and techniques of the KAP study. Care was taken to ensure that this non-random sample would reflect the least selection bias possible. For the majority of the instrument returns, questionnaires were distributed to households with an explanation of the purpose, anonymity, and voluntary nature of the study, then picked up some time later by the collector. For the adolescents, a teen group at the Dixwell Q House...
filled out the form anonymously after an explanation by the enumerator. The elderly group were reached at the two housing projects for the elderly, where the enumerator read the form out loud to the group as some were unable to read the small print themselves. All responses were as intended by the design of the instrument, i.e., self-reported and anonymous.

SURVEY RESULTS

Main findings from initial frequency runs on the total sample were as follows: nearly 1 in 3 black residents worry about AIDS all the time or several times a day; while only 1 in 25 whites do. 2 out of 3 people think you can get AIDS from receiving blood, 43% from donating blood (two times the national average). 22% think you can get it from a toilet seat; 25% from a water fountain. 37% think there's probably no risk from oral sex with a woman; 15% think it may be possible to catch from shaking hands. 1 in 5 people think having sex only with those people who look healthy is a way to reduce AIDS transmission. 22% think sharing needles with friends is not a risky behavior.

In terms of sexual practises: 28% do not think abstinence lowers risk, and 35% don't think monogamy lowers risk. 36% never use condoms, and only 55% always use either condoms or some other form of birth control. 2 out of 3 people are sexually active now, and 1 out of 3 would not refuse sex without a condom.

Main Points from Initial Cross-Tabulation Analyses

Among the salient findings to emerge from the data is that there are definite profiles of knowledge and risk-taking applicable to the different demographic categories. Age was considered a statistically significant variable where $p$ was <0.05. One of the significant correlations of response with age was that 1 in 4 teens worry all the time about AIDS, and only 10% of >55 y.o. do ($p=0.002$).

The >55s on the whole were the least informed of the group: 16% didn't know about sharing works (96% of teens did), 81% thought you get AIDS from receiving blood, 43% from toilet seat, 64% from deep kiss, 28% from water fountain, 32% thought shaking hands was a possible route; 27% thought mosquitoes were transmitters. Most importantly, 53% of this group thought that sleeping only with healthy people was safe or maybe safe. Also, 30% of this group thought sharing works with friends was safe. 30% are sexually active now; yet only 40% are always protected by either condoms or some other form of birth control.

The teens were surprisingly well-informed about AIDS transmission. They are evidently attuned to and are retaining messages about drug paraphernalia and condom usage. For many of the variables there was a strong inverse correlation between age and knowledge, with correctness of response decreasing with increasing age for the following
variables: receive blood, shaking hands, monogamy, AIDS exposure meaning possible transmission to baby, willingness to take test. Importantly, over 55% of teens said that monogamy is not a way to reduce AIDS risk. 57% of 15-19 year olds report being sexually active now.

The middle age categories (20-34, 35-54) were the most sexually active (71.5% and 76.7% respectively). Yet, they are the least protected: only 64% and 38% always use either condoms and/or other birth control (versus 79% of teens; p=0.01). They likewise evinced the greatest sense of denial about maternal-fetal transmission. This latter fact is disconcerting because these are the primary child-bearing years. Furthermore, almost 40% of these two age categories thought the AIDS test did not or might not tell you that you could pass AIDS on. 30% think abstinence does not reduce AIDS risk. In terms of knowing the risks of heterosexual transmission, only 76% of the 35-54 years olds knew the correct answer, versus 84-94% correct response by other age groups.

The risk of transmission via oral sex on either a man or woman was an uncertainty for many respondents.

The meaning of the HIV antibodies test also produced much confusion. 85% of teens said it meant you had AIDS now and 89% said it meant you would die from it. A majority or near majority in all the other age categories (47%-62%) expressed the same understanding of the antibodies test (p=0.00). There was a strong inverse relationship between age and the numbers of people who thought about or considered taking the test, with teens having the highest response at 60% (p=0.00).

As for where to learn about sex, 40% of kids do not think they should learn it in school, while 64% of the 20-34 year olds thought they should it there (p=0.014). Most children (87%) in fact want to learn about sex from their family. The majority of all respondents thought the home was the appropriate place for sex education. Only 17% of teens want to learn about sex from the media, while 47% of >55 year olds did. (This is also counter-intuitive to the myth of parental protest which television stations use to keep sex education, instead of sex, off the T.V.)

For AIDS education there was an inverse correlation with age on the question of health facilites: 89% of teens want AIDS education to take place there, while only 63% of >55y.o.s do. Only 40% of teens wanted sex ed in the schools, but 72% wanted AIDS ed taught there. Interestingly enough, there was a decreasing choice of the family for AIDS ed with increasing age. Only 22% of teens want sex ed from their friends, but 63% would trust AIDS ed from them.

Initial conclusions to be drawn from the sex breakdown were statistically significant only concerning the question of oral sex (women were more unsure than males) and sex with an IV drug user (more women said they would refuse sex with IVDA than did men).
1 in 10 women and 1 in 4 men do not like condoms because of the way they feel (p=0.001); 23% of males because they do not have condoms versus 9% of women who cite this (p=0.001). Only 24% of males and 23.4% of females always use condoms (not statistically significant). Only 20% of men always use some other form of birth control, while 40% of women do (p=0.003). 46% of men and 64% of women would refuse sex without a condom (p=0.013). 71% of males and 56.4% of females report being sexually active now (p=0.023).

This effort to break down the community's knowledge base by age and sex will allow a more accurately targeted education effort, with the goal of maximizing prevention of AIDS transmission.

FUTURE WORK
Phase II- Educational intervention.

The educational campaign can now be designed on the basis of the survey results outlined in last section. Informational materials will therefore address exactly what people said they know, do not know, and want to learn. Education efforts will utilize audience segmentation (by age categories), with targeted messages, to focus on the various components of the Dixwell community. Literacy and technical cognizance will always be considered for each demographic category, necessitating that two pamphlets be designed in any given education effort: one with simplified, colloquial vocabulary, concrete messages and attractive graphics, the other with more detail and greater complexity of language.

Materials will include posters, and a pamphlet with a telephone number for available additional information. The pamphlet will be mailed to every household.

This and other educational material will be utilized in the training of the Block Watch and other community leaders (ministers, Elks Club, etc.). These drum-majors will provide AIDS information to their neighbors and peers through the Block Watch forum, churches, business, and social organizations. By providing personal follow-up of the educational pamphlet by respected peers, greater acceptance of the messages will be gained, with concomitant behavioral change.

DPHP's community based approach to AIDS education will reach out to all those who through engaging in high risk behaviors are at risk of acquiring HIV. This population includes all those who are sexually active as well as those who use unsterilized needles or sexual barter for obtaining drugs. The pilot target population is therefore all those aged 13 years and up who live in Dixwell. Categories of special concern within this broad-based group are the following:
1. **Adolescents**: Experimentation with sex and drugs, combined with the sense of invulnerability seen at this developmental stage, put this group at high risk. According to Connecticut state statistics, the incidence of syphilis, gonorrhea and chlamydia increased last year among 15-19 year olds by 100%. 

2. **Working Age Adults**: The 'forgotten majority' of many AIDS efforts. People in this age category who are not IVDAs or homosexuals/bisexuals are still at risk of tertiary spread through contact with either of the aforementioned groups. Since many heterosexuals still think that AIDS is a "gay" or "addict's" disease, their ignorance and denial puts them further at risk of behavioral acquisition of HIV.

3. **Elderly**: Not the usual target of many public health ventures into disease prevention and health promotion, this group is still at risk through sexual activity. They are also important attitude shapers through their participation in community groups and churches. Their roles as grandparents and surrogate parents in schools adds to their ability to influence and shape attitudes and beliefs.

4. **Women of Childbearing Age**: The rate of female AIDS cases in New Haven is over four times that of the national average (29% versus 7%). Maternal-fetal transmission is therefore of obvious concern.

**Phase III - Evaluation.**

The original KAP survey will be distributed as in Phase I; comparisons of the two data sets will allow assessment of the effectiveness of the educational intervention. Positive and negative lessons learned for application in other AIDS outreach efforts in minority communities will be noted and integrated into the project's ongoing AIDS education efforts.

**SUMMARY**

AIDS has been called a behaviorally transmitted disease. With no vaccine or 'magic bullet' in sight, prevention must occur at the primary level, i.e. through education of all sexually active persons, IV drug users and their sex partners, and women of childbearing age.

By 1992 Connecticut can expect a death rate of five to ten people a day from AIDS; New Haven already contains over 50% of the state's AIDS population. These facts, combined with the disproportionate share of AIDS being borne by the minority community, make the need for AIDS education and prevention efforts all the more urgent. Only by providing the knowledge that can lead to reduced individual risk behaviors - promoting the "drum major instinct" - will the New Haven minority community be empowered to meet this most human of challenges: AIDS.

U.S. Census data, Census tract 16; 1980.


Morris, V. High amount of city AIDS cases are women. New Haven Register, 3/25/88.


CDC data indicate a 35% increase in 1987 over 1986, largely among urban heterosexuals.


Incidence as of December 1987. CT State Department of Health figures.


Bartulo J. AIDS may hit 10% of black group in city. New Haven Advocate, October 1987.


Appendix A

Survey Instrument
DIXWELL AIDS QUESTIONNAIRE

Your Age: _____ Sex: Male___ Female___

1) Have you ever heard of AIDS (acquired immune deficiency syndrome)?
   YES___ NO___ Don’t know___

2) How much of your time do you spend worrying about AIDS?
   All the time____ Several times a day___ Several times a week___
   Several times a month___ Never____

3) How do you think people catch AIDS?
   - sharing works when shooting up YES___ NO___ Don’t know___
   - straight sex without a rubber YES___ NO___ Don’t know___
   - receiving blood at hospital or clinic YES___ NO___ Don’t know___
   - from a toilet seat in public bathroom YES___ NO___ Don’t know___
   - from deep kissing YES___ NO___ Don’t know___
   - anal sex from behind without a rubber YES___ NO___ Don’t know___
   - donating blood at hospital or clinic YES___ NO___ Don’t know___
   - oral sex (going down) on a man YES___ NO___ Don’t know___
   - gay sex without a rubber (condom) YES___ NO___ Don’t know___
   - drinking from public water fountain YES___ NO___ Don’t know___
   - oral sex (going down) on a woman YES___ NO___ Don’t know___
   - baby gets it from mother with AIDS YES___ NO___ Don’t know___
   - shaking hands YES___ NO___ Don’t know___
   - sex with an addict (IV drug user) YES___ NO___ Don’t know___
   - getting bitten by mosquito YES___ NO___ Don’t know___
   - what else?__________________________

4) How can you lower your chances of getting or giving AIDS?
   - don’t have sex with many partners YES___ NO___ Don’t know___
   - if you have sex, use a rubber YES___ NO___ Don’t know___
   - only sleep with people who look healthy YES___ NO___ Don’t know___
   - only share needles with friends YES___ NO___ Don’t know___
   - don’t have sex with anyone YES___ NO___ Don’t know___
   - only sleep with one person YES___ NO___ Don’t know___
   - avoid sex with certain ethnic groups YES___ NO___ Don’t know___
   - what else?__________________________

***TURN THIS PAGE OVER*** FILL OUT OTHER SIDE...
5) Would you refuse sex with an IV drug user? YES ___ NO ___ Don't know ___

6) What does the "AIDS test" (HIV antibodies blood test) tell you?
- whether you have AIDS right now YES ___ NO ___ Don't know ___
- whether you are going to die from AIDS YES ___ NO ___ Don't know ___
- whether you have been exposed to the AIDS virus YES ___ NO ___ Don't know ___
- whether your baby will get AIDS YES ___ NO ___ Don't know ___
- whether you can pass AIDS on YES ___ NO ___ Don't know ___

7) Have you ever thought about taking the AIDS test?
- whether you have AIDS right now YES ___ NO ___ Don't know ___
- whether you are going to die from AIDS YES ___ NO ___ Don't know ___
- whether you have been exposed to the AIDS virus YES ___ NO ___ Don't know ___
- whether your baby will get AIDS YES ___ NO ___ Don't know ___
- whether you can pass AIDS on YES ___ NO ___ Don't know ___

8) When you have sex, do you use rubbers?
 Always ___ Sometimes ___ Never ___

-if you don't always use rubbers, why don't you?
they don't feel right ___ they cost too much ___ religious reasons ___
don't have one when you need one ___ interrupts sex ___ don't need one ___
other reasons? ___________________________________________________________________

- do you ever use any other kind of birth control?
 Always ___ Sometimes ___ Never ___

-if you ever use birth control other than condoms, what kind(s) do you use?
Oral contraceptives/the Pill ___ Diaphragm ___ Rhythm ___ Tubes Tied ___
Spermicidal jelly/foam ___ Douching after sex ___ Withdrawal (pulling out) ___
Other? ___________________________________________________________________

9) Would you refuse sex without a rubber? YES ___ NO ___ Don't know ___

10) Are you sexually active now? YES ___ NO ___ Don't know ___

11) Where should people learn about sex?
 Health Facility ___ School ___ Family ___ Friends ___ TV/Radio ___

12) Where is the best place for people to learn about AIDS?
 Health Facility ___ School ___ Family ___ Friends ___ TV/Radio ___
Other? ___________________________________________________________________