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Internet use and health information seeking
behavior of adolescents in Mbarara, Uganda:
Implications for HIV prevention

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* Thank you for your interest in this presentation. Please note that analyses included herein are preliminary. More recent, finalized analyses can be found in: Ybarra ML, Emenyonu N, Nansera D, Kiwanuka J, & Bangsberg D, R. Health information seeking among Mbararan adolescents: results from the Uganda Media and You survey. Health Educ Res. 2008; 23(2):249-258.



Acknowledgement

Any well-conducted project is a team effort.
This is no exception. I would like to thank
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Background

- As more and more people are online
 - 78% of Americans 12 years of age and older are online (USC Annenberg School Center for the Digital Future, 2007).
 - An estimated 97% of youth use the Internet (Lenhart, Madden & Hitlin, 2005; USC Annenberg School Center for the Digital Future, 2005).
- The Internet is fast gaining recognition as a feasible HIV prevention tool

Background: The advantages of Internet-based programs

- Low-cost
- Easily scalable
- Overcome facilitator issues (discomfort with topics, incomplete implementation)
- Overcome individual issues (need for transportation, child care, health insurance, physical limitations)

Background: Internet-based HIV prevention programs

- Bull et al (Smart Sex Quest):
 - Men who have sex with men recruited online
 - Increasing risk awareness for STD, HIV testing and condom use
 - 1700 adults enrolled
 - 20% retained at 3-months (3 messages)
- Bowen et al:
 - Men who have sex with men living in rural areas recruited online
 - Outcome expectancies, self-efficacy, HIV knowledge
 - 90 adults enrolled
 - 80% retained at 1-week (2 sessions)
- Kok et al (Gay Cruise):
 - Men who have sex with men recruited in chat rooms
 - HIV knowledge, attitudes, subjective norms, self-efficacy, accurate risk perceptions
 - 5,982 adults enrolled
 - 94% retention at study end (7 sessions)

Background: the need for innovative prevention programs in Uganda

- HIV/AIDS is a major contributor to morbidity and mortality in Uganda (UNAIDS, 2004).
- Despite years of consistent decline in incidence rates, recent data suggest rising incidence (USAID, 2002; Shafer, Biraro, Kamali et al., 2006).
- This may be especially true for adolescents (UNAIDS, 2004).
 - Among young adults, 38% of men and 56% of women did not use a condom.
 - HIV knowledge is on the decline compared to their same-aged counterparts surveyed in 1990.

Problem statement

- New and innovative interventions are needed to reinvigorate HIV rate decline.
- These programs must be cost-effective and easily scalable.
- But:
 - Do adolescents have access to the Internet?
 - In the absence of interventions, where do they 'naturally' look for health information?

Uganda Media and You Survey

- Conducted in June-July, 2005
- 500 adolescents 12-18 years of age (Secondary 1-4)
- 100 participants randomly identified from each of 5 local schools:
 - 1 Muslim (mixed sex)
 - 2 Public all-boys schools
 - 1 Public school (mixed sex)
 - 1 Catholic all-girls school

Methods

- 93% participation rate
- Pencil-and-paper
- Completed after school (on average 20 minutes)
- Reviewed and approved by Mbarara IRB
- Adult consent provided by principals; youth consent provided by participants

Characteristics of Mbarara

- 4 hours drive from Kampala (capital)
 - 6th largest urban center (population: 69,000)
 - 2nd most populous district, but in bottom half in terms of population density
- Municipality serving a mainly rural population

Characteristics of youth participants

- 61% Male
- 46% between 15-16 years of age
- 71% thought they would probably or definitely finish secondary school
- 44% of fathers attended/completed university
- 29% of mothers attended/completed university

Internet use

Exposure to the Internet (n=500)

88% of youth have been exposed to the Internet

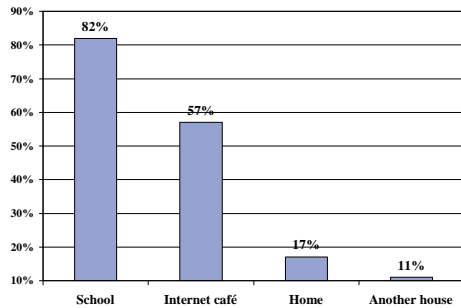
- 45% of youth have used the Internet (ever)
- An additional 43% knew someone who had gone online

Use of the Internet (n=223)

Among Internet users:

- 78% logged on in the previous week
- 41% were online for 1 hour or longer the last time they logged on

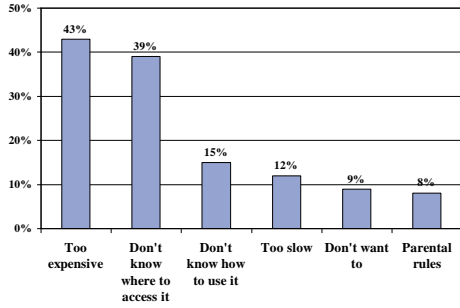
Location of log-in (n=223)



Characteristics associated with Internet use

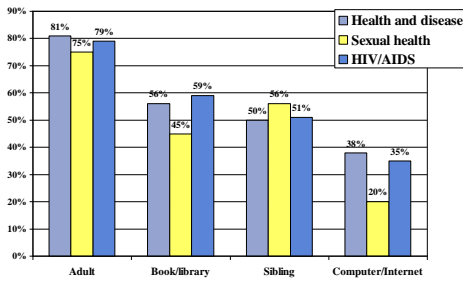
Youth characteristics	AOR	P-value
Male	2.5	0.08
Age		
12-14 y.o.	1.0 (Reference)	
15-16 y.o.	1.9	.05
17-18 y.o.	2.1	.05
Mother's educational level		
Less than secondary school	1.0 (Reference)	
Secondary school	2.4	0.03
Attended university	4.4	0.002

Reasons for not using the Internet (n=277)

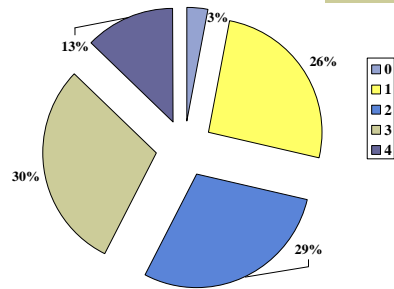


Health information seeking

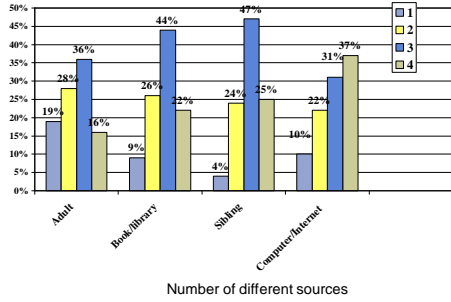
Health information seeking (n=500)



Number of sources for HIV/AIDS information (n=500)



Number of sources by type of information resource (n=500)



*13 youth indicated they did not use any of the 4 sources for HIV/AIDS information

Characteristics of computer/Internet health information seekers (n=223)

Youth characteristics	AOR	P-value
Going online in the past week	2.4	0.04
Accessing the Internet at school	0.2	0.002
Online activities		
Visiting chat rooms	3.8	<.001
Emailing	2.5	0.03
Playing games	2.8	0.002

Summary

In this smaller municipality, outside of the capital city,

the Internet is a familiar technology:

- Most (4 in 5) have used or know someone who has used the Internet
- 35% of all youth (78% of Internet users) used the Internet in the last week

Summary

The desire to go online is apparent:

- Less than 10% of non-users say they have no desire to use the Internet
- Access issues (cost, nearby location) are most frequently cited barriers

Summary

One in three youth (35%) have used the Internet or computer to access information about HIV/AIDS.

Although school is the most frequently cited location, school computers are associated with significantly reduced odds of health information seeking.

Summary

Internet health information seekers are likely to use multiple sources for health information.

Adults are the most common source of health information for adolescents.

Limitations of the data

Measures of sources of health information are somewhat crude and include only the four options. It is likely youth get information from additional sources (e.g., newspapers, television)

Internet use and health information seeking are not tied to health or risk behaviors.

Limitations of the data

Although this is one of the few surveys of youth living outside of a major city in sub-Saharan Africa, it is possible that youth living in more rural areas (especially those without access to the electrical grid) would have less familiarity with the Internet.

Implications

The Internet appears to be a feasible tool for HIV/AIDS prevention programs for adolescents.

It will not be the only tool however. Multiple delivery methods are needed.

Implications

Schools are a good source for recruitment of Internet-familiar youth.

Internet-based interventions should be designed for and tested outside of the school environment.

Discussion: Designing an Internet intervention

- Go local
 - Local researchers
 - Local interventions that have successfully integrated cultural norms (e.g., Sengas)
- Get personal
 - Recruit from schools
 - Involve the community