# Retrospective Review of Technology and the Native Youth HIV Prevention Media Project: 2005-2011


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## EXECUTIVE SUMMARY

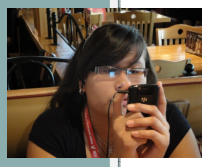
In order to understand how media has changed within the past five years in relationship to the Native American Youth HIV Prevention Media Project (YMP) curriculum (2004-2006), the Office of Minority Health Resource Center and the Indian Health Service National HIV/AIDS Program embarked upon a review of recent trends about youth and technology and a retrospective look at three communities participating in the original YMP pilot program.

### Technology

Rapid advancement in mobile devices, cloud technology, electronic books, gaming, and augmented reality software now offers all online teens the ease and opportunity to be both media creators and consumers. The particularly salient point is that not all teens are "online," particularly in Indian Country where many communities and reservation areas have limited broadband access and spotty cell phone coverage. Additionally, teens (and adults) in low income households, again including much of Indian Country, rely on cell phones as the primary platform for Internet access. Twenty-one percent of all teens (36% of AI/AN teens in the Pacific Northwest (CraigRushing, 2010) and 46% of AI/AN girls in a residential school environment) use cell phones to access the internet.

While little research has been done on a national scope to describe the behaviors of online AI/AN teens and technology, a comprehensive report

on teens in the Pacific Northwest suggests that they are following national trends. AI/AN teens, as other minority youth, are using the full capabilities of cell phone technology in place of computers to bridge the economic and geographic digital divides in order to access friends, music, information, and entertainment. Time spent on mobile devices range from less than an hour to five plus hours a day, and this time is dedicated as much to listening to music, texting friends, and surfing the Internet as it is to talking. Most teens multitask on their devices (it is one of the attractions of the technology), which adds an appreciable amount of technology consumption time – up to 10 hours a day in the national studies. Additionally, time spent on the Internet is changing brain physiology and development in actively online children and adolescents; evolution of electronic readers and books is changing the learning and teaching environments in colleges and will eventually reach the public school environment.



In the Pacific Northwest, about 36% of AI/AN youth spend time on video games, and the time spent is less than the national average. The most likely users of video gaming are AI/AN males, with interest peaking at about age 14. A contributing factor may be that a sizeable percentage of AI/AN youth use cell phones as their mobile device to connect to the Internet and many games are designed for/or more easily played on devices with larger screens.

The implications for program planners are that technology directed toward AI/AN adolescents needs to be interactive and informative, and easily accessible by cell phones and other mobile devices; low income and rural areas need multiple strategies to gain attention in order to include youth who are not online or have limited access; and gaming interventions are of greatest interest to younger adolescent males.

Blog – Web log

## Native Youth HIV Prevention Media Project

The YMP is a program that is still in use today, even though modules directed toward building technical skills are dated. The single recommendation for improving the curriculum is to update the modules that address Internet technology. The core curriculum that increases HIV knowledge and youth leadership skills is valid and relevant and is still taught in Omak, Washington. The resources the program brought into three communities is continuing to provide support in very meaningful ways.

Through advocacy by YMP participants, the AI/AN elders in San Diego now support HIV education programming and the San Diego American Indian Health Center credits the YMP for providing the foundation for their city-funded youth program that now serves over 120 AI/AN adolescent youth annually. They now have their own space and media equipment and their youth group continues to make videos for both fun and education. The American Indian Child Resource Center continues to use the computer equipment and teens who were part of the original program are now able to serve as in-house media trainers to younger teens for self-developed social media campaigns.

The implications for program planners is that the YMP offers content that is effective and relevant today, particularly regarding the influences of media on behavior, understanding HIV/AIDS and the importance of testing, and teaching leadership skills.

The long-term impacts of the program demonstrate the value of building internal capacity within community-based organizations.

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# INTRODUCTION

**Tweet – 140 characters or less**

"Twitch," "text," "tweet," "blog," "friend," "like"…all are words for computer activities with very different meanings as little as five years ago. The speedy adaption of the new vernacular is a reflection of the rapid assimilation of technology into the intimate lives of those born after 1990, the "Digital Natives," "Millennials," and the "Y Generation." Since 2005, when the National Native American AIDS Prevention Center introduced their *Native Youth HIV Prevention Media Project* (YMP) the world has changed. To understand how youth currently engage and use technology, and how the YMP influenced and impacted communities, the Office of Minority Health Resource Center and the Indian Health Service National HIV/AIDS Program requested an overview of current literature and a retrospective review of the YMP and the communities it served.

The literature review reports on how technologies are evolving, how technology is shaping brain development, how and why adolescents are using technology, how technology is changing the power dynamics between adolescents and adults, and how minority youth, including American Indian/Alaska Native adolescents are using technology.

The retrospective review of the Youth Media Project reports on how the project activities five years ago continue to impact individuals, organizations and communities that were part of the pilot program.

## METHODOLOGY

The rapid changes in Internet technology are best reported in the electronic literature. The methodology for the literature review was topical, online searches for relevant research, articles, and reports addressing current and evolving technology; and its uses by adolescents, minority adolescents, and American Indian and Alaska Native (AI/AN) adolescents. The review draws in part, upon findings from the New Media Consortia's Horizon report that forecast trends in technology and education, and The *Pew Internet & American Life Project* and the *Kaiser Family Foundation,* organizations that have conducted extensive, longitudinal studies about media and youth.

## EXISTING AND EMERGING TECHNOLOGIES

**SMS – Short Message Service**

The use of the Internet and technology is fueled by the growing number of Internet-capable mobile devices and increasingly flexible web content (Johnson L. S., 2011). Trends in technologies described in this report are imminent to five years away. The changes are in mobile devices, electronic books, and cloud technology, all occurring in the coming year; followed by game-based learning and augmented reality, coming within the next two to three years, and gesture-based computing, four to five years in the future (Johnson L. , 2011).

## Mobile Devices (Time to adoption, 1 year or less)

Mobile devices are pocket-sized computers that typically enable connectivity to the Internet and allow for communication via phone or text. Individuals can add applications, or "apps" that allow for a plethora of complementary activities that can be customized to meet personal needs. According to new research by the International Data Corporation, (a company that tracks technology market share and sales), makers of smartphones, a type of mobile device with computer-like functionality, are expected to "ship more than 450 million smartphones in 2011 compared to the 303.4 million units shipped in 2010," (New York Times, 2011). These predictions show that the smartphone market is expected to grow by as much as 50 percent over the next year (Worldwide Software 2009-2013 Forecast Summary, 2009).

Three-fourths of all college/university students have purchased or intend to purchase an internet-enabled handheld device within the next year (Johnson L. S., 2011). And according to a recent report from mobile manufacturer Ericsson, studies show that by 2015, 80% of people accessing the Internet will be doing so from mobile devices. It is the affordability of mobile devices and the increased access to networks that is driving this technology. For youth in particular, they are increasingly the first choice for Internet access (Dolliver, 2008) (Lenhart A. , 2009; Madden, 2005; Rideout, 2010).

### *….Cell Phones and Text Messaging*

Five years ago, most young people did not have a cell phone, texting was a new idea, and cell phone use was typically a substitution for a landline rather than the multimedia platform in widespread use today. In 2009, Pew Internet & Family Foundation Project conducted a Parent-Teen Cell

Phone Survey with a nationally representative sample of 800 teens (aged 12 to 17), to learn more about the use and application of technology. From this research, they found that since 2004, cell phone use has increased steadily among 12-17 year-olds, from 63% in 2006 to more than 75% in 2009 (Lenhart, 2009; Rainie, 2009). Nationally, girls and boys are equally likely to own a cell phone and there is no difference by race/ethnicity; however, age is a significant factor in cell phone ownership. Older teens are more likely to have a cell phone than younger teens, with rates increasing significantly during the transition from middle school to high school at age 14 (Lenhart, 2009).

In a Harris Interactive Poll of 13-19 year-olds in 2008 (N=2,089), 45% of those with cell phones agreed that, “Having a cell phone is the key to my social life.” Over half (57%) reported that having a cell phone “has improved the quality of my life.” To some, the basic cell phone functions were so important that 79% said they “love it” or would “die without it” (Dolliver, 2008). In a case study about one girl’s relationship with her phone, she says, "I love my phone. I love it enough to risk my life for it," It's always on, she says, and she keeps it beside her bed at night (Seiter, 2005).

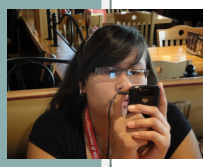
More than 4 in 5 teens with cell phones sleep with the phone on or near the bed. They use it as a watch or alarm clock, and its close proximity allows for constant communication. The Pew Internet reports that this behavior is more common with older teens, which are more likely than younger teens to have the cell phone bedside (86% versus 78%).

Youth today spend more time listening to music, playing games, or watching media on their cell phones than they do talking on them (Rideout, 2010). Use of iPods or other MP3 players has increased from 18% in 2004 to 76% in 2009 and the tremendous increase in cell phone

and MP3 ownership among all teens is a driving force underlying the increase in media use among 8-19 year olds (Lenhart A. , 2009).

Minority youths reportedly are the heaviest consumers of media content via cell phone use. Teens in the lower socio-economic strata are much more likely to use their cell phone to the full extent of its capabilities, circumventing the need for a computer (Lenhart A. , 2010). Black youth spend the most time using their phones for music, games and videos, almost 1:28 hours compared to 1.04 hours for Hispanics and 0:26 for White youth. The difference in time spent with cell phones in relation to race (White, African American, and Hispanic) holds even after controlling for age, gender, and parent education (Rainie, 2009).

### *…How Teens Use Cell Phones*



- 83% use their phones to take pictures
- 75% of teens in the general population have a cell phone
- 64% share pictures with others
- 60% play music on their phones
- 46% play games on their phones
- 46% send text messages on a cell phone, averaging 118/day
- 32% exchange videos on their phones
- 31% exchange instant messages on their phones
- 27% go online for general purposes on their phones
- 23% access social network sites on their phones
- 21% use email on their phones
- 11% purchase things via their phones

Further, among 8 to 18 year olds:

- 33 minutes average for talking on a cell phone in a typical day
- 49 minutes either listening to music, playing games, watching television, talking on cell
- 1:06 hours a day spent on cell phone by older teens

## Electronic Books (Time to adoption, 1 year or less)

Electronic books are slated to be an emerging trend within 2011-2012 and will change the face of learning at the college level, filtering down into public high schools, then middle schools. The use of audiovisuals, interactive links and social elements will connect readers in a common, real time experience. With advancing technology, virtually all mobile devices will soon also function as electronic readers (Johnson L. , 2011). Currently, the high school dropout rate for AI/AN youth is at 50% (Faircloth, 2010), so it will be interesting to monitor how changes in education technology are adapted by the Bureau of Indian Education and eventually influence AI/AN high school graduation rates.

## Cloud Technology (Time to adoption, 1 year or less)

The "cloud" refers to a centralized storage system in the ethos of the Internet. It is a system of computers that are able to run different types of programs simultaneously. Cloud technology is behind Facebook, Google, and other widely used applications and offers network access to a shared pool of resources (e.g., games, music, videos) that can be quickly adapted and released with minimal management effort and decentralized Internet Technology (IT) support. Resources are appropriated based on demand and geography and the user generally

has no control or knowledge about the exact location of the provided resources (Johnson L. S., 2011)

### Game-based Learning (Time to adoption, 2-3 years)

Research on game-based learning continues to demonstrate its effectiveness for learning for students of all ages. Education games range from single-players to massively multiplayer online games (MMO – see below) and alternate reality games. Aspects of games that attract players of various ages and genders are: the feeling of working toward a goal; the possibility of attaining spectacular successes; the ability to problem-solve, collaborate with others, and socialize; and an interesting story line (Johnson L. S., 2011).

#### *…Video Games*

In a study of 1,102 youth between the ages of 12- 17, findings reported that virtually all American teens play computer, console, or cell phone games, with the most popular falling into the racing, puzzle, sports, action and adventure categories (Lenhart, 2008). Altogether, teens average 25 minutes of console use per day—comparable to time spent online (Nielson Wire, 2009a). Gaming is typically more common among male teens than among female teens (averaging 41 minutes per day, compared with just 8 minutes per day among females) (Nielson Wire, 2009a) and peaks among 11-14 year olds, especially for console playing (:43 minutes a day). This holds true with AI/AN youth in the Pacific Northwest, where 56% of males report video game use compared to 23% of females (CraigRushing, 2010). Younger adolescents spend more time than older teens with handheld players, while older teens spend more time playing on cell phones. Across all technology platforms, Hispanic

RSS – Real Simple Syndication

(1:35) and African American (1:25) youth spend more time playing video games than White youth (:56) (Horrigan, 2009).

### *….Massively Multiplayer Online (MMO)*

In the coming years, MMOs will begin to engage much more interest. These platforms offer games within games, social situations and connectivity, large and small goals to work towards, and interesting background story lines. A challenge for developers of educational games is in creating methods for embedding educational content in such a way that it becomes a natural part of playing the game (Johnson L. S., 2011). Social games are another area of current development. With social games, players can access the game environment from any mobile device at any time. The game travels with the user and becomes a part of daily activities and routines (Johnson L. , 2011).

### Augmented Reality (Time to adoption – 2-3 years)

Augmented reality is most easily explained through examples. 3-D glasses were one of the first technologies to change the user's perception of reality. Another example is head-mounted viewing devices that create visual and spatial interaction for the user. This technology layers information over a view or representation of the normal world and users have the ability to access place-based information in new ways.

### Gesture-based Computing (Time to adoption – 4-5 years)

Gesture-based computing was introduced into the public domain through Nintendo Wii, the Apple iPhone, and the iPad. It is technology that

moves the control of computers from a mouse and keyboard to the motions of the body via new input devices. The potential for this technology will be most realized with adolescents who are growing up accustomed to touching, tapping, swiping, jumping, and moving as a means of engaging with information (Johnson L. S., 2011).

*"Different kinds of experiences lead to different brain structures."*

Dr. Bruce D. Berry, Baylor College of Medicine

## DIGITAL NATIVES, MILLENNIALS, NET AND Y GENERATIONS

There are many evolving terms to describe those who were born 1990 or later and have grown up with the internet. This generation has a very different style of learning. They crave interactivity and illustration over words. They operate at the "twitch speed" of video games and learn through multitasking and sensory input rather than instruction based on step-by-step logic (Prensky, 2006). The interest is not in the technology, but in the ability to communicate and to create. Technology use in and of itself does not seem exotic, but rather ordinary (Oblinger, 2005) (Lenhart, 2011).

However, for some youth, technology use may not be the activity of choice, but rather what is most available, a substitute for something they would rather do, particularly when many neighborhoods and communities are no longer safe or inviting places for youth (Oblinger, 2005).

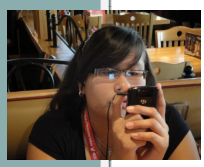
### Technology and the Brain

The intensive time spent on the Internet and playing video games affects the physiology of the brain (Oblinger, 2005). According to Winn (1997),"Children raised with the computer 'think differently from the rest of us.' They develop hypertext minds. They leap around. It is as though their cognitive structures were parallel, not sequential." There is now

evidence that links brain structure and development to life experiences and stimulation. Research by social psychologists shows that people who grow up in different cultures do not just think about different things, they actually *think* differently (Prensky M. , 2001). "Teens have created a new form of communication. We call it texting, but in essence it is a reflection of how teens want to communicate to match their lifestyles. It is all about multitasking, speed, privacy and control," said Joseph Porus, VP & chief architect, Technology Group, Harris Interactive. (Dolliver, 2008).

### *…Using Technology*

Young people instant message, text message, use Facebook, and email much as older generations spent time writing letters and talking on landline telephones (Oblinger, 2005). Surveys show that Millennials, more so than adults, use the technology proffered by the Internet to socialize, download more entertainment media, and consult the web for a wider range of purposes (Dutton, 2004).



Teens use the Internet to produce their own media—create their own voice. They teach each other, borrow images, and draw upon a range of resources and co-construct identities (Jenkins, 2006). New, low-cost digital production tools mean that amateur and casual media creators can author, edit, and distribute video and other rich media forms that were once prohibitively expensive to produce and share (The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning, 2007). Content creation by teens has increased to 64% of online teens (Lenhart A. M., 2007), and their personal websites are rich with images, videos, poems, art and creative reflection.

Research by the Kaiser Family Foundation describes the time engagement patterns of teens. The Foundation has conducted surveys of media use among teens at 5-year intervals, beginning in 1999. The third in the

series, completed in 2009, included 2,002 students and oversampled minority youth. According to this study, 8-18 year-olds now devote an average of 7 hours and 38 minutes (7:38) to using entertainment media across a typical day (more than 53 hours a week), compared to 6 hours and 19 minutes in 1999 and 6 hours and 21 minutes in 2004 (Rideout, 2010). Much of this time is spent using more than one medium at a time, resulting in the consumption of 10 hours and 45 minutes (10:45) of media content packed into 7 ½ hours, up from 8:33 hours five years prior (Rideout, 2010). Youth engage in different types of media at different older teens listen to more music (Rideout, 2010).

Surveys conducted by the Pew Internet & American Life Project (Rainie, 2009) (Lenhart, 2010), describe the consumption and production patterns for youth on the internet:

### On-Line Teens as Media Consumers

- 93% use the internet
- >90% use their browsers for cloud computing activities
- 82% of young adults 18-29 are on a social network
- 74% have an MP3 player
- 73% of teens 12-17 are on a social network site
- 60% own a laptop or computer
- 55% use Wikipedia
- 8% use Twitter (increases with age, e.g., 13% of girls 14-17)

### On-Line Teens as Media Producers

- ~75% of teens have created content for the internet
- 54% of girls post photos (40% of online boys)
- 39% of teens have shared their own creation

MMO – Massive Multiplayer Online

- 35% of teen girls blog (20% of boys)
- 26% of teens report having a personal webpage
- 20% of teens say they remix content into their own artistic creations

## Digital Divide

A reason the relationships between youth and media is so strong is that it disrupts the existing set of power relationships between adolescents and authority figures. Adolescents are more knowledgeable than adults, teachers, and other authority figures; understand how to use the Internet tools, and can create and distribute media in their own voice (The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning, 2007). They may also serve as the "interpreter" for "media illiterate" family members or friends trying to navigate the mobile communication milieu and thus gain power as an information broker.

For American Indian/Alaska Native communities, one aspect of the digital divide is geographical. According to reports from the Federal Communications Commission, 90% of tribal populations lack high-speed Internet access, and usage rates are as low as 5% in some areas, "By virtually any measure, communities on tribal lands have historically had less access to telecommunications services than any other segment of the population," (FCC, 2004). A survey sponsored by the Native Public Media, an advocacy group for Native American media, found that among respondents in over 120 tribes across 28 states, less than 10% reported universal cellular coverage in their community (Morris T. L., 2009). The five main cellular providers are: Verizon (55%), AT&T (48%), Sprint (32%), T-Mobile (24%), and US Cellular (16%) (Morris T. L., 2009). In Indian Country, those that have access to the Internet do so through multiple channels, including: dial-up modems (7%), high-speed connections (13%),

DSL-enabled phone lines (26%), cable modems (18%), through wireless connections (19%) (Morris T. L., 2009), and 36% use their cell phones as their Internet access platform (CraigRushing, 2010).

There is also an economic divide that is overlooked and growing, and income level is a predictor of types of use (Horrigan, 2009). [1,2] Forty-one percent of teens from households earning less than $30,000 annually say they go online with their cell phone. Only 70% of teens in this income category have a computer in the home, compared with 92% of families from households that earn more. Twenty one percent of teens who do not otherwise go online say they access the Internet on their cell phone (Horrigan, 2009). There is also a difference in cell phone use by race--44% of black teens and 35% of Hispanic teens use their cell phones to go online, compared with 21% of white teens.

| Annual Household Income | Go Online with Cell | Computer in the Home |
|---|---|---|
| **Under $30,000** | 41% * | 70% * |
| **$30,000 - $49,000** | 27% | 84% |
| **$50,000 - $74,000** | 22% | 93% |
| **$75,000+** | 23% | 97% |

TABLE 1. COMPARISON OF INCOME TO CELL AND COMPUTER USE

*significantly different than all other cells in the respective rows
Source: Pew Internet & American Life Project

[1] For AI/AN families, the average household income nationally is low at $37,348 compared to $51,425 in the general population (U.S. Census, 2009), and poverty rates for reservation areas average 50% (Massey, 1996).
[2] Overall, the national average American Indian unemployment rate is 13.6% compared to 8.2% for non-Natives (Austin, 2009).

## AI/AN Adolescents and the Native Youth Media Survey

The Native Youth Media Survey is a dissertation study of adolescents living in the Pacific Northwest and one of few research projects to date that report on American Indian/Alaska Native teens and their access and use of media. The dissertation reports on findings from over 400 teens (13-21 years) (CraigRushing, 2010). According to Craig-Rushing, AI/AN teens in the Pacific Northwest use a variety of technologies, including cell phones (78%), Internet (75%), iPods and MP3 players (75%), computers (74%), video games (36%). Older teens (age 16-18 years) reported higher levels of online activity than younger teens (age 13-15 years). Of all the technologies included in the Native Youth Media Survey, cell phones were most frequently used – to talk, text, access the Internet, and send or receive images. However, 17% reportedly do not have a cell phone.

| Internet Activities | AIAN Adolescent Females | AIAN Adolescent Males |
|---|---|---|
| **Have an online profile** | 92% | 80% |
| **User a computer** | 77% | 69% |
| **Use the Internet** | 82% | 71% |
| **Use iPod daily/weekly** | 73% | 73% |
| **Use cell phone daily/weekly** | 72% | 63% |
| **Text daily/weekly** | 86% | 67% |
| **Use a digital camera** | 46% | 25% |
| **Video games daily/weekly** | 23% | 54% |
| **Use digital camcorder** | 13% | 18% |
| **Use a webcam** | 4% | 8% |
| **Post photos online** | 80% | 59% |
| **Access Internet via Cell** | 39% | 32% |

TABLE 2. COMPARISON OF TECHNOLOGY CONSUMPTION BY GENDER

**Like – Showing acceptance through recognition on SNS and personal webpages**

**Friend – Sending or requesting admittance to someone's SNS**

Among all AI/AN youth in the study:

- 87% have an online profile
- 80% view others' profiles
- 73% use the Internet 30+ minutes a day
- 71% post photos online
- 68% use Internet for information about entertainment venues
- 53% use Internet for AI/AN news
- 53% participate in 7 or more online activities

Craig-Rushing also asked about specific design elements desired by adolescents for a health-based website, *"NW AI/AN teens and young adults were most interested in sites with pictures (50%), videos (46%), an "ask the experts" section (43%), music or audio (39%), and numbers or statistics (36%). Respondents were particularly interested in seeing images of people who looked like themselves and who were going through the same types of life issues (38%). Respondents were also interested in having places to post and read personal stories, like blogs or message boards (33%), having Instant Messaging (IM) (29%), and having links to other websites (29%)."*

## AI/AN Adolescents and BeLieving In Native Girls (BLING)

BeLieving In Native Girls (BLING) is an HIV and juvenile delinquency prevention intervention underway at a residential Bureau of

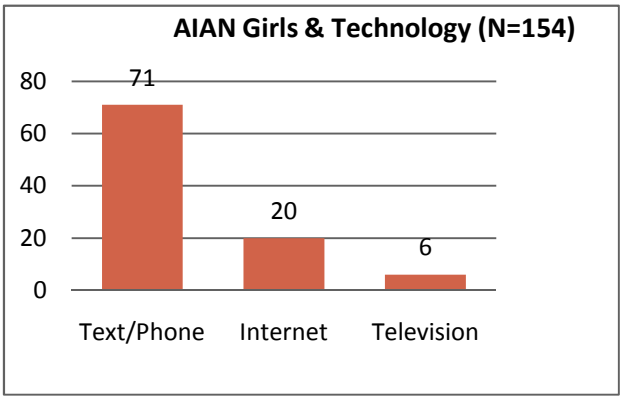
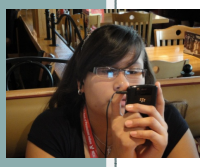



TABLE 3. COMPARISON OF MEDIA CHOICES BY GIRLS IN A RESIDENTIAL SCHOOL ENVIRONMENT

Indian Education residential facility. During 2010-2011 baseline data was collected by the author from 153 AI/AN girls from many different tribes as part of a cross-site evaluation initiative. The survey includes questions regarding time spent using technology during a typical school day. As students in a residential boarding school, they do not have "home" access to a computer, unless they bring one to school with them. Some dormitories have a computer that students share during out-of-school hours, and they have access to televisions and cell phones. Of the total of 154 girls, 71 (46%) spend at least 5 hours texting or using the cell phone; 13% use the Internet 5+ hours; and 4% watch 5+ hours of television.



## RETROSPECTIVE REVIEW OF THE NATIVE YOUTH HIV PREVENTION MEDIA PROJECT

### BACKGROUND

The original *Native Youth HIV Prevention Media Project (YMP)* curriculum was an 18-session curriculum designed to help American Indian/Alaska Native teens understand the media and the power of social marketing and communication and to teach media production skills.[3] The purpose of YMP was to provide HIV prevention education, media literacy, media production skills, and leadership development to American Indian, Alaska Native, and Native Hawaiian youth ages 14-19. The intended audiences were school educators, HIV/STI and pregnancy prevention educators, and youth providers working with American Indian, Alaska Native, and Native

[3] This curriculum was created by the National Native American AIDS Prevention Center (NNAAPC) through funds supported by Cooperative Agreement, # HHPMP04100 from the Office of Minority Health (OMH).

Hawaiian youth. The content addressed: HIV/AIDS, condom skills, negotiation and refusal skills; photography and camera skills, Photoshop Elements, software training; presentation skills, and planning a social marketing campaign. An outcome measure was the improved leadership of youth as documented by presentations at conferences and community events and the creation of a social media campaign.

During the first two years of the program (2005 – 2007), the pilot site was an urban organization, the American Indian Child Resource Center, in Oakland, California. In Year 3, there was a competitive application process and two additional sites were added to the program cohort--The Okanogan Family Planning Program in Omak, Washington, a reservation and rural community; and San Diego American Indian Health Center, an urban organization.

## INTERVIEW METHODOLOGY
## (N=6 youth and 6 adults)

The retrospective review consisted of hour-long group interviews with key staff and former participants of the YMP in each of the three sites. Prior to the interviews, leaders from each organization were sent a list of questions that would be included in discussions in order to ensure the appropriate staffs and expertise were included on the calls. Each organization recruited teen and/or young adult participants from the original program to be on the call and each received a $25 gift card in appreciation. Interviews were conducted in May and June, 2011 via telephone and recorded for accuracy; content was analyzed for trends and themes. A total of six adolescents, four girls and two boys, discussed their experiences with the program and its overall impact during the past five years. Six adults (four males and two females) added organizational and management perspectives. Staffs from two of the programs were

involved in the initial delivery of YMP at their locations and had benefit of first hand observations and reflections. Staffs from the third program were familiar with the program delivery and could speak with some authority on the ongoing impact of the program within their organization and community.

## THE STORY OF IMPLEMENTATION

Each program tailored and allocated resources in different ways during implementation to meet respective needs. In Oakland, the program was under the umbrella of the 21 Generations, Peer Education Program (PEP). They purchased computers, software and hired a facilitator to teach the program after school hours during the academic year. The group produced posters, water bottles, stickers, and t-shirts. In San Diego, the program contracted with a training center to provide space, computers, and technical expertise. Their final product was a DVD that has been distributed nationwide. In Omak, the program was incorporated into the school and delivered as a health education program during the school day. The product was bumper stickers and promotional items with health messages. Participants from all programs gave presentations at the United National Indian Tribal Youth (UNITY) Conference, attended additional conferences, and made presentations to classrooms, local groups, and tribal councils regarding HIV/AIDS prevention.


**FIGURE 1. PRODUCT DEVELOPED BY THE OAKLAND PEP, 2006.**

## WHY YMP ATTRACTED ORGANIZATIONS

The program was attractive to community-based organizations because it provided HIV education to the youth in their communities and supplied desired equipment and technology.

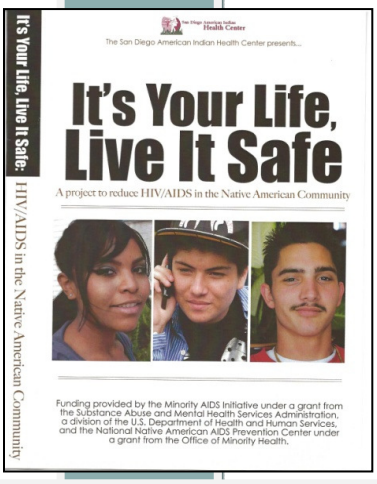



**FIGURE 2. VIDEO CREATED BY SAN DIEGO, 2007.**

### HIV Education

The program leaders recognized the need for an education program within their respective communities because of the stigma associated with those living with HIV/AIDs and because of the high rates of risk-related behaviors such as teen pregnancies. There were no existing programs to teach adolescents about HIV and risk behaviors. At that time, many community members were unaware of their status, and had questions about confidential and anonymous testing and available resources.

### Computers and Technology

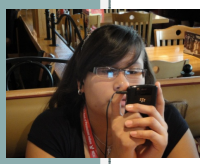
In San Diego, the program offered an opportunity for youth programming to fill a void in the community. In Oakland, the organization had an ongoing afterschool program and tried to build in new programming and skills to keep the program interesting for the students. The opportunity to be part of the YMP was attractive on several levels—it was cutting edge for the times, and offered access to needed computer and software equipment, and training. In Omak, the community had just opened the Paschal Sherman Indian School and it contained a new computer lab. This funding opportunity offered a means of training in HIV and also making use of the equipment.

## HOW AI/AN TEENS SAY THEY USE TECHNOLOGY

Teens are producers and consumers of technology, in fairly equal parts and the learning is generally from peer to peer, as they share new skills or programs with one another. Cell phones and smart phones are the preferred means of communication and they use Twitter and the Internet as information sources before seeking help from teachers or adults. Software available on the internet, such as the photo editing programs, offers creative outlets for the creation of videos, using animation and music and teens share their work with friends. Time spent "connected" varied from teen to teen, from daily Facebook checks to staying connected 24 hours, seven days a week. In fact, to schedule this conference call, the Omak director first called, then emailed, then sent text and Facebook messages. The teens responded only to the Facebook message.

From the teens' perspectives, technology is not viewed as a fact and function of life—it is a means to an end. Facebook is novel only in the aspect that it allows people to connect with their friends. "[Facebook is] how I find my friends and keep in touch, really. Nothing's really interesting about Facebook except just talking to friends really."

In San Diego and in Omak, program staffs estimated that about 60% of teens have cell phones. On the Omak reservation, cell phone theft is becoming a significant problem because many youth do not have them. There, sizable numbers of adolescents are in foster care or juvenile justice programs, and without funds or access to technology. In Oakland, "… most kids have smart phones, irrespective of family economic situations. All kids have cell phones."



## PROGRAM IMPACT

The program still is impacting teens, adults, organizations and communities.

### Participants

For participants, the skills gained during the YMP have served as stepping stones to other work. One young woman, now a college senior, is majoring in communication and has become a role model in her urban community. As a teen, she went to community elders and talked to them about the need for HIV/AIDS education and programming. Because of her, doors opened and adolescents and adults were given an opportunity to learn about risks for HIV/AIDS.

Other teens reported increased confidence in talking about HIV, condoms, and in making presentations to groups. The training through the YMP gave them a foundation that they've pulled on for subsequent activities and ventures.

In Oakland, teaching the YMP gave the facilitator additional skills. She has gone on to attend additional technology classes at the community college.

### Organizations

In San Diego, the YMP was the catalyst for an entire youth program. The organization built upon the initial successes to demonstrate the need for programming for American Indian/Alaska Native youth. They applied for local government funding to create a youth program that now serves about 120 American Indian/Alaska Native youth. In the beginning, they rented space and computers, but now have their own media computer lab and actively produce videos for YouTube on serious and fun topics.

In Oakland, the computer equipment from the original grant has been upgraded and is in regular use even though it is dated. The organization has hosted additional programs that built upon the expertise of the students, such as digital storytelling and film editing. Staffs involved in the program have been further trained to support the media efforts and the organization is using the media lab, and skills of teens and staff to create a social media campaign for the organization.

Omak continues to use components of the curriculum with ninth grade students at Paschal Sherman Indian School. They talk about what a media campaign would look like and different ways of presenting media. They also do student teaching, with ninth grade students presenting information to the sixth, seventh, and eighth grade classrooms. The only thing omitted from the original program is actual media production.

### Community

Programs reported on the value of having "home-grown" expertise within the community to help with media activities. These former students are looked to as advisors and consultants, particularly by program staff and younger people in their communities.

In the San Diego community, elders now support an HIV education and prevention program due to the outreach and advocacy of a teen in the program. This was a breakthrough that is totally attributed to the program and its participants. Prior to the program, the community was not supportive of the HIV education efforts; however, elders were willing to listen to the voice of the youth. On a national front, the video produced through the YMP is still being requested and disseminated throughout the country.

In Omak, the program created awareness about HIV and the need for HIV testing and continues to get calls from other tribal programs about access

to HIV services. Periodically, the program offers testing days at different Indian Health Centers so community members can have access to confidential testing. Bumper stickers are still sported on trucks and automobiles, and the director routinely gets calls requesting a supply of the stickers to distribute during community events, even though the supplies have long since been depleted.

## CHALLENGES

Challenges to the program have been a community's sensitivity to the topic of HIV and sex education; logistics related to implementation, and in providing technical expertise.

Omak faced a community barrier. As in San Diego, youth and group facilitators tried to work with community leaders and the elected officials; however, Tribal Council was not open to supporting an HIV intervention program. Through happenstance, one council member was in attendance during a YMP presentation at an All Indian Youth Conference, and was immediately won over. After the presentation, he spoke to the director, "I didn't know. I didn't know this is what it was about. I didn't know." His support, however, was not sufficient to influence the council, and the majority voted out funding that would have sustained media activities after the initial YMP funding ended.

A challenge faced at San Diego was the lack of space, equipment, and expertise to deliver a youth media program. They contracted with an outside agency to provide all of these services, which constituted a large part of their initial budget. They now have the internal capacity to offer media programming.

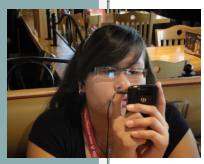
In Oakland, the program facilitators were not particularly savvy with the software and needed a lot of support. During the classes, staffs were learning along with the students. Since that time, staffs working with the media programming have attended additional training programs to maintain and increase skills. YMP implementation is heavily dependent upon the skills of the facilitator, but as the first program participants are now entering young adulthood, they are likely candidates to assume some of the training and facilitation responsibilities if the program were to resume.

## DELIVERING THE PROGRAM TODAY

Teens and staff were asked to make suggestions about how the YMP curriculum should be adapted to meet the needs of youth today.

The primary recommendation was to update the technical instructions to reflect current use of digital cameras, camcorders, and cell phones in the creation of media messages.

Information should be added regarding the use of Social Network Sites, (e.g., Facebook, Twitter), blogging and integrating cell phone applications into a marketing and social media campaign.



*"I really think the curriculum was great. It was so easy to follow. It was set up so a person going into it didn't need a lot of outside resources to administer it."*

*"I thought it was very good because it also did the Apple, the Mac, and the PC. You could do either or. You didn't have to just have a Mac to figure it out. You just didn't have to have the PC. It addressed both computer systems."*

### About the Curriculum

There were no suggestions for changing the basic construct of the curriculum, other than updating the technical instruction component. Core components of YMP are still very relevant as evidenced by the ongoing use of the curriculum at Omak. The modules that teach HIV and social media are still in use as are the activities that teach leadership skills.

## CONCLUSIONS ABOUT THE YMP

The Native Youth HIV Prevention Media Project has made varying degrees of lasting impacts in all three host communities. Through advocacy by YMP participants, the AI/AN elders in San Diego now support HIV education programming and the San Diego American Indian Health Center credits the YMP for providing the foundation for their city-funded youth program that serves over 120 AI/AN adolescent youth. They built a program that now has its own media equipment and their youth group continues to make videos for both fun and education.

The Okanogan Family Planning Program in Omak, Washington is still using the YMP curriculum sans the technical media training modules and has integrated the program into the classroom. The American Indian Child Resource Center continues to use the computer equipment and teens who were part of the original program are now able to serve as in-house media trainers to younger teens.

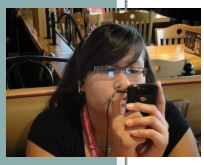
## Implications from the Report for AI/AN Adolescents

American Indian/Alaska Native teens, like other minority youth, are using the Internet as a source for information and for entertainment. They have social network profiles and are both consumers and producers of media, using audio and visual software programs that were at one time cost prohibitive. The attraction to the Internet and technology is in the results and services, rather than the technology itself, which is the given reality for the generation born after 1990.

Developments in cloud technology allow immediate access and download capabilities to an increasing number of applications—games, music, videos and software. Time spent on mobile devices range from less than an hour to five plus hours a day, and this time is dedicated as much to listening to music, texting friends, and surfing the Internet as it is to talking. Most teens multitask on their devices (it is one of the attractions of the technology), which adds an appreciable amount of technology consumption time – up to 10 hours a day in the national studies.

Time spent on the Internet is changing brain physiology and development in actively online children and adolescents; evolution of electronic readers and books is changing the learning and teaching environments in colleges and will eventually reach the public school environment. The union of these phenomena may result in a new way of teaching that may help AI/AN students learn. Currently, AI/AN teens have dismal success in high school, with the highest dropout rates in the country. Changes in teaching technology many serve to redefine learning in a more sensory inclusive manner that will more successfully engage AI/AN teens and positively influence high school graduation rates.

The use of cell phones is increasing annually, and the transition age to cell phone use is about 14 years. AI/AN teens, as other minority youth, are using the full capabilities of cell phone technology in place of computers to bridge the economic and geographic digital divides in order to access friends, music, information, and entertainment. For all youth, the cell phones play a critical role in social interaction and the sense of belonging to a group. For low income AI/AN youth and for those living on rural reservations or in areas of limited access to technology, cell phones are the primary platform for Internet access--21% of all teens (36% of AI/AN teens in the Pacific Northwest and 46% of AI/AN girls in a residential school environment) use cell phones to access the internet.



While no nationwide data exists for cell phone use by AI/AN adolescent populations alone, the results of available data indicate a high probability that AI/AN teens nationwide are following a similar upward utilization trend. (It is important to note that broadband access is still irregular and spotty in most rural reservation communities.) Interestingly, the popularity of cell phones has made them an attractive target for thievery, particularly in Northwest reservation areas where estimated cell phone ownership is less than the national average--about 60%. An important note--not all AI/AN teens have cell phones.

While in US surveys of video gaming, virtually all youth played some type of video games, the percent was much lower among AI/AN youth living in the Pacific Northwest, with unknown comparisons for AI/AN youth nationally. In the Pacific Northwest, about 36% of AI/AN youth spend time on video games, and the time spent is less than the national average. The most likely users of gaming are AI/AN males, with interest peaking at about age 14. A contributing factor may be that most AI/AN youth use cell phones as their mobile device to connect to the Internet and many games are designed for/or more easily played on devices with

larger screens. However the increased efforts by the education and video gaming industries to design multiplayer group and social games offers an opportunity to improve interest and participation.

## GLOSSARY OF TERMS AND DEFINITIONS

Android (Operating System) – The world's best-selling smartphone platform

ARGs – Alternate reality games

Augmented Reality - The layering of information over a view of the normal world and providing the ability to access place-based information in intuitive ways, such as head-mounted displays.

Blogs (Web Logs) - Frequently modified web pages in which dated entries are listed in reverse chronological order – personal blogging appears to be the most common.

Cloud Computing - A grid of computers set up as a *collective virtual computer*, where applications can run independently from a particular computer or server configurations. They are basically floating in a "cloud of resources", making hardware less important to how the applications work.

Digital Divide – Refers to the gaps that exist between those who have access to digital technology and those who do not

Digital Media- A convergence between interactive media (gaming), online networks, and existing media forms.

Digital Natives – Those who have grown up with Internet technology

Digital Immigrants – Those who have learned Internet technology later in life.

Edutainment – A form of entertainment designed to educate and amuse.

eGames – Electronic or online computer games.

e-learning – A term that encompasses all forms of technology enhanced learning.

Facebook – A social networking site (SNS) where users can add friends, send messages, write blogs, post photos and videos, and update personal files.

Image sharing – Posting images on a public website where they can be viewed, tagged, or used by others.

iPad – A mobile device that combines robust computational functionality with a screen large enough to serve as a legitimate replacement for printed textbooks and other course materials.

iPad tablet – a cross between smartphones and laptops, using touchscreen interface, web access and large-table display size.

Media Literacy – Ways of understanding, interpreting, and critiquing media and for creative and social expression, online search and application of new technical skills.

Micro-blogging – Allows users to post brief text updates to a website for public viewing. The most popular site is "Twitter".

Millennials (Net Generation, Net Gen, Y Generation, Digital Generation) – Terms for the first generation of individuals to grow up in a world where the Internet is always present.

Mobile device - A pocket-sized electronic item, with a screen and keyboard, that allows you to keep in touch with others, home, or the office. It is also known as a handheld device, handheld computer or simply handheld.

MMO – Massive, multiplayer online and role-playing games

MMS – Multimedia Message Service, a cell-phone based service used to transmit graphics, video clips or sound files.

MySpace – A social networking site (SNS) similar to Facebook.

Open educational resources models (open textbooks) – Open resources to promote active learning through student interaction with the text, particularly when they contribute to authorship.

Personal Home Pages – Websites that generally include an array of multimedia features such as text, images, sounds, links and audience response mechanisms, guest books and counters.

Online Video Sharing – Public access sites to post or view videos.

Podcast – A digital audio or video file that can be saved for playback on a media device or computer.

RSS Feed (Really Simple Syndication) – A link to a website that provides ongoing/current information on the topic of interest.

Smartphone – A mobile phone that offers more advanced computing ability and connectivity than a contemporary feature phone

SMS – Short Message Service, a cell-phone based service used to send short text messages; used interchangeably with "text messaging"

SNS - Social Networking Sites, online communities where people can interact with friends, family, coworkers, and others with similar interests. Most sites provide multiple ways for users to interact, such as chat,

email, file share, and blog. Teens use in lieu of personal pages because SNS allow for self-expression at the same time they provide opportunities for connection and relationship building. Examples of SNS include Facebook and MySpace.

Twitter – An online micro-blogging and social networking website that provides real-time information, commentary and descriptions of events. Twitter users send updates, or "tweets," that are 140 characters or less and can also highlight certain audio or video content.

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## About Sage Associates, Inc.

Sage Associates, Inc. is a community capacity-building organization with expertise in evaluations, fund development, grant writing, and community-based research. The organization is a HUB-zoned, Native woman-owned corporation, with 8a certification, and TERO certification through Cherokee Nation. Sage is headquartered in Houston, Texas with offices in Chickasha, Oklahoma. In operation since 1992, much of the organization's efforts have focused on minority populations, and in particular AI/AN populations. For the past four years, Sage has been the project manager and evaluator for an HIV and juvenile delinquency initiative, working with adolescent AI/AN girls at a residential boarding school.