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Exploration of the Adolescent Confidential Health History Screening-Tool and its Data at Denver Health in 2011

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Exploration of the Adolescent Confidential Health History Screening-Tool and its Data at Denver Health in 2011

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Bachelor of Science
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2008

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An abstract of
A thesis submitted to the Faculty of the
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2013

Abstract

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and its Data at Denver Health in 2011.
By William Knechtle

Background: Denver Health medical care providers developed a new adolescent patient health history screening-tool and wanted to learn if it was being used, how it was being used, if there was significant variation in health risk by demographic factors, and if the tool could be used to generate other hypotheses about adolescent health risk behaviors in Denver. The Adolescent Confidential Health History (ACHH) screening-tool was developed from the AMA's Guidelines for Adolescent Preventive Services (GAPS) questionnaire in 2009 and was used to direct counseling and treatment during Denver Health Well-Child Visits in 2011.

Methods: Secondary data analysis and interviews of Denver Health medical providers were used to explore ACHH screening-tool use and data. The number of adolescent patients completing the screening tool of the number expected at each health center was defined. Responses from 428 screening-tools completed at Eastside Family Health Center in 2011 were used to describe occurrence of and associations between health behaviors in the patient population. Outcomes of interest were sexual experience, marijuana use, and sleeping trouble. Health behaviors within the sample were compared to trends observed in the Healthy Kids Colorado Survey and the Youth Risk Behavior Survey. SQL Server Management Studio 2008 and Microsoft Access 2007 were used to create a database. SAS Enterprise Guide 4.2 and SAS 9.3 were used to analyze data.

Key Results: Significant variation in health risk by race occurred and is described in this thesis. Sexual experience and marijuana use did not differ greatly between males and females, though they did between races. Report of sleeping trouble differed between males and females (23.1% of males and 42.6% of females). Gender modified the association between health risk behaviors and sleeping trouble. Among female patients at Eastside Family Health Center, stress and sadness were more strongly associated with sleeping trouble than stress and sadness among males.

Conclusions: Reducing sadness and stress may reduce sleeping trouble (and vice versa) most efficiently among females. The Adolescent Confidential Health History will be an effective research tool if it is completed more widely and with less variation across Denver Health family and school-based health centers.

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CHAPTER 1: INTRODUCTION

This thesis represents a three-part project to assess patient health history among adolescents visiting Denver Health clinics. Denver Health developed a new adolescent health screening-tool from the American Medical Associations' (AMA) Guidelines for Adolescent Preventive Services (GAPS), but its efficacy had not been reviewed, nor had it been used for research. In 2012, Denver Public Health was not aware of the screening-tool's existence and the Director of General Pediatrics for Community Health Service was not confident the screening-tool was being used according to protocol. The Director of Pediatrics and Denver Public Health's Maternal and Child Health Program coordinator were aware that a potential tool for improving Denver Counties' adolescent preventive health services was not being used. Furthermore, medical care providers at Denver Health clinics were unable to describe the number of adolescents they were treating through Well-Child Visits and did not have estimates of health risk behavior occurrence among adolescent patients at the aggregate level. The new screening tool did exist, and was called the Adolescent Confidential Health History form (ACHH), but a number of its benefits were being wasted.

The purpose of this project was to check if the ACHH was being used according to protocol, use the screening-tool to describe adolescent patients, and apply screening-tool results to analyze associations between adolescent health behaviors. The first objective was to determine the proportion of adolescent health screening-tools completed within Denver Health clinics in 2011 out of the number expected. This was found by counting screening-tools scanned into the Denver Health electronic database among routine adolescent patient visits. The total proportion of screening-tools completed was

stratified by clinic, gender, and age. The second objective was to produce a descriptive analysis of screening-tool responses from the first visits of 451 patients who had a Well-Child Visit at Denver Health's Eastside Family Health Center in 2011. The third objective was to generate hypotheses from significant relationships and begin by testing the hypothesis that there would be significant variation in reported health risk by derived race/ethnicity and primary language. Specific health outcomes of interest were marijuana use, sexual activity, and sleeping trouble.

Despite current limitations as a research tool, Denver Health's ACHH screening-tool is a significant asset to Denver physicians and Denver Public Health. The ACHH screening-tool consisted of 53 questions grouped into the following categories: medical history, athletic health, family health and relationships, eating/weight, school, drug use, sexuality, violence, and emotional status. These categories can be used to better understand adolescent patients at Denver Health and, potentially, adolescents in Denver County. Regardless of question misinterpretation by adolescents, this screening-tool may assist physicians in defining the most important health issues to be discussed with an adolescent during his or her well-child visit. This may result in more effective counseling of adolescents, which may lower adolescent intentional and accidental injury, teen-birth rates, drug use, suicide, and onset of chronic disease. Successful adolescent preventive services lead to a healthier adult and child population and more productive economic assets. Perfection of this screening tool and use of it among a larger adolescent population in Denver is invaluable: its information can help all concerned with Denver public health identify targets for citywide improvement.

CHAPTER 2: COMPREHENSIVE REVIEW OF THE LITERATURE

Denver Health's Adolescent Confidential Health History (ACHH) screening-tool (a questionnaire) was developed from the American Medical Association's (AMA) Guidelines for Adolescent Preventive Services (GAPS) health and behavior screening-tool. Denver Health physicians and nurses were interested in using a screening-tool to become involved in the reduction of adolescent health risk behaviors. They hoped that the screening tool would be used to improve in-clinic counseling, direct referral for counseling, identify individuals for further testing, or prescribe treatment. Denver Health would also use the screening tool to identify longitudinal patterns in community adolescent behavior and discover associations between health risk behaviors. The impetus for GAPS was reviewed to promote the significance of understanding and monitoring adolescent health. GAPS-related research was reviewed to avoid repetition of previous research, evaluate use of the screening-tool in other clinics, and improve academic and clinical research with the Denver Health Adolescent Confidential Health History screening-tool. (Other adolescent preventive service research was available, but research using the AMA's GAPS was the focus because it was the research tool most related to the ACHH. If the only aim of this thesis were to study adolescent health, than use of reviewing other research would be more appropriate. However, one objective was to check and improve the method by which a GAPS-based questionnaire is used.) Identifying barriers to clinical use and research will help develop strategies for improving Denver Health adolescent preventive health services.

History of Guidelines for Adolescent Preventive Services

In 1990, the American Medical Association (AMA) began to develop the comprehensive set of 24 guidelines for adolescent preventive services (GAPS) in cooperation with the CDC-Division of Adolescent and School Health.[22] The document was released in December 1992 and focused on youths from 11 to 21 years of age. Concurrently, the AMA provided implementation materials to assist in practical application of the guidelines in clinical settings. For example, in 1993, Dr. Arthur B. Elster, pediatrician, and Naomi J. Kuznets, PhD, published Guidelines for Adolescent Preventive Services: Recommendations and Rationale.[10] In 1995, Dr. Elster and Patricia Booth Levenberg, PhD, wrote the Guidelines for Adolescent Preventive Services (GAPS): Clinical Evaluation and Management Handbook.[20] In 1995, the AMA also published the "Guidelines for Adolescent Preventive Services (GAPS) Recommendations Monograph." Members of the AMA's GAPS Executive Committee were Beth Alexander, MD, David Kaplan, MD, Susan G. Millstein, PhD, and members of the AMA staff. A GAPS screening tool was created with a wide variety of sections that requested information about adolescent medical history, eating habits, weight, school skills, friends and family, weapon use, violence, safety practice, tobacco use, alcohol use, drugs use, development, sexuality, and emotions. The AMA GAPS committee pilot tested this GAPS screening tool within comprehensive preventive service visits among focus groups of adolescents. Debriefing interviews with over 100 adolescents and 85 parents revealed that adolescents and their parents strongly supported the screening-tool as well as physician involvement for reduction of health risk behaviors (Unpublished, AMA, 1994)."[21]

In 1997, Dr. Elster and Patricia Levenberg, PhD (AMA staff) published a second rationale for the GAPS and suggested approaches to integrating the GAPS into everyday medical care.[21] This publication rationalized need for GAPS by making five conclusions from an adolescent health study by JE Gans published in 1990, a high school drug study published by LD Johnson in 1993, and CDC surveillance data released in 1996.[21] Dr. Elster and Dr. Levenberg concluded that adolescents across all segments of society were increasingly involved in health-threatening behaviors, engaging in health risk behaviors at earlier ages, and becoming involved in multiple health risk behaviors at once.[21] Furthermore, they found "there has been a major shift in causes of adolescent mortality and serious morbidity."[21] Increases in threatening health behaviors are evidenced, in another example, by the CDC report that the national percentage of 15-year-old girls who have had intercourse increased by over 70% among white youth from 1960-1990.[21] Furthermore, JE Gans found that, from 1960 to 1990, the national adolescent suicide rate had almost doubled.[13] In short, the AMA developed the GAPS because they believed adolescent health was growing increasingly worse.

In 1993, Susan G. Millstein and Vivien Igra, MD, published an article encouraging the improvement of preventive services for adolescents and described obstacles to implementing AMA's GAPS.[15] Millstein and Igra analyzed data from the 1990 National Ambulatory Medical Care Survey (NAMCS) and suggested that, not only were adolescent health behaviors worsening, but provision of adolescent preventive care was also "less than optimal." For example, though 70% of adolescents visit a physician every year,[13] the NAMCS found that only 31.2% of all adolescents (ages 11-20) attended office visits that provided any type of counseling.[15] In summary, not only was collective

adolescent health worsening over time, but treatment of their health was no better.

Adolescent preventive service within clinics was weak, and the GAPS were not helping. In an effort to describe why the GAPS were not improving adolescent preventive services, Dr. Millstein and Dr. Igra referred to past publications in a discussion of barriers to adolescent preventive studies within clinics and among physicians. Millstein and Igra described lack of insurance coverage as a barrier to preventive services, but they also directed attention towards N. Lurie and colleagues' Rand Health Insurance Study (1987), which found that preventive services were frequently inadequate even when hospital services were reimbursed for providing them.[23] For this reason, Millstein and Igra concluded that adolescent preventive services face barriers greater than inadequate insurance coverage, and pointed towards physician factors. Millstein and Igra "suspect that many physicians view adolescents as being unmotivated and generally unconcerned about health issues"[15] and that this view affects physician motivation and concern. Igra and Millstein also cited DP Orr's study of physician's perceptions of adolescent health care, which concluded that many physicians believe risky sexual behaviors were not related to their own patients, even if related to adolescents in general.[15] Furthermore, Igra and Millstein cited research on cancer screening to suggest that physician forgetfulness could be a reason for lack of adolescent counseling. In conclusion, Dr. Igra and Dr. Millstein wrote that publication of the GAPS was a step forward, but more steps needed to be taken to improve health policies and physician behavior.

Successes and Failures of the GAPS tool

Since its public release, physicians have used the GAPS tool to screen adolescents for risk behaviors. For example, responses questions such as, "Have you ever been told by a doctor or nurse that you had a sexually transmitted infection or disease?" and "Do you and your partners(s) *always* use condoms when you have sex?" may lead physicians to prescribe tests for presence of sexually transmitted infections or diseases. Information from the GAPS screening-tool could help a medical care provider counsel an adolescent on healthy eating habits, weight, weapon use, violence, safety practice, tobacco use, alcohol use, drugs use, sexuality, and emotions. Providers could also advise patients by discussing potential interrelationships between school skills, friends, family, and health. In some settings, GAPS data are used to produce adolescent population statistics. In other settings, advanced analysis of relationships between GAPS responses have been performed with varying results. GAPS screening tool completion rates have varied significantly between different health clinics, limiting accuracy of GAPS statistics.

In 1996, chart review by Robert Blum, MD, et al. revealed that GAPS screening tool administration and recording of answers varied between private family practices, private pediatric practices, community family practices, school based teen clinics, and community teen clinics in Minneapolis, Minnesota.[2] In Blum's study, despite control of differences in age and gender distributions, practice setting accounted for 37% of the overall variance in screening behavior. In addition, Levenberg and Elster reported that questionnaire response rates were greater for younger patients and for female patients seen in clinics serving only adolescents.[21] Furthermore, adolescents seen in general pediatric and family practice settings were more likely to be screened for "biomedical

risk" (immunization history, family health history, temperature, height, weight, and blood pressure) than for behavioral or "psychosocial risk" (adjustment to puberty; school adjustment; learning disabilities; relationships; depression/suicide; and physical, sexual, and emotional abuse).[2] It became clear that merely issuing the clinical guidelines and screening tool to health clinics did not ensure screening tool administration by physicians or response from adolescents. Variance between practices was a result of differences of administration policy and physician behavior. This report strengthened Dr. Millstein's and Dr. Igra's argument that more steps needed to be taken to improve health policies and physician behavior if GAPS screening-tool administration rates were to become consistent and higher between different health clinics.

In 2001, J.D. Klein admitted that there was substantial variance between clinics after he assessed quality of adolescent care in Community and Migrant Health Centers (CMHCs) across New Jersey, New York, and Maryland.[16] Klein found that variance was reflected by altering levels of GAPS training, staff commitment, leadership, implementation process, clinician tendency to over-report, unequal distribution of adolescent visits, and selection of CMHCs for likelihood of success.[16] However, the administration of the GAPS pointed towards areas of success other than risky-health-behavior identification. Klein reported that the GAPS improved healthcare in lower-income communities by helping adolescents identify a medical home – a place where continuous and comprehensive health care was offered and positive health outcomes were maximized. In selected CMHCs, Klein's results revealed that the GAPS were particularly useful for increasing preventive services given to adolescents. Results indicated that, overall, after GAPS implementation, 28% more adolescents seen for

preventive care services could identify a source of care for counseling, 71% more knew where to go to get birth control, and 67% more knew where to go for sports or school physicals.[16] Predictably, health clinics that invested in improving physician behavior by encouraging adolescent preventive services training for medical providers noticed improvements in adolescent care. The rural Bassett Pediatric Clinic of Cooperstown, NY sent their clinic manager to attend an AMA GAPS train-the-trainer program in Chicago, train staff for a day, hold a 6-hour video conference including a presentation by Dr. Elster, and offer several adolescent risk-behavior-related 1-hour training sessions.[12] The Bassett Pediatric Clinic reported an increased percentage of visits in which the GAPS form was completed.[12] The GAPS screening-tool administration rates rose from 33% during 1998 to 94% in 1999 and leveled at 90% in 2000.[12] In 2001, 95% of clinic visits identified risk behaviors whereas 19% of visits had identified risk behaviors in 1998.[12] In another example of success after training implementation, School-Based Health Centers (SBHCs) near the East Carolina University College of Nursing (which used the GAPS screening-tool from 1997 to 2011) reported improvements in GAPS screening-tool administration after including nursing students trained in GAPS.[19] In 2010, nursing students joined school nurse practitioners at each SBHC and received training on GAPS protocol. The nurse practitioner and student then told teachers their plan to increase the intensity of GAPS screening-tool administration by targeting adolescents who had not yet been introduced to the GAPS screening tool ("new users"). SBHCs found that including nursing students in GAPS implementation helped improve the rate of screening tool administration among new users. Among total new visits at all of the SBHCs in the area,

the administration proportion increased from 21% in August-December 2010 to 41% in January-March of 2011 after nursing students were included.[19]

There have been two notable published multivariate analyses of relationships between GAPS responses. The first was a multivariate analysis of GAPS data to show that adolescent health behaviors vary commonly according to their number of sex partners. The second was a multivariate analysis of GAPS data to identify affecters of adolescent mental health. In 1997, Dr. J. Dennis Fortenberry analyzed cross-sectional GAPS data from schools collected in 1992 from the fourth year in a longitudinal study of health behavior.[11] (The name of the major urban school district was unidentified in this publication. The study was approved by the IRB of the University of Colorado, Boulder, and the publication is from the Indiana University School of Medicine). Despite lacking proof at the time that the GAPS provided an effective framework, Fortenberry tested the hypothesis that adolescent health-related behaviors identified by the GAPS framework (screening-tool) systematically co-varied and that this shared property varied as a function of the number of sexual partners. The hypothesis proved correct and, among other associations, he found that "adolescents with 3 or more sexual partners were simultaneously more involved in illicit substance use and risky driving and less likely to use seat belts than adolescents with 1 sexual partner."[11] Multivariate analysis of GAPS data was applied again in 2010, when Dr. Michael T. Kopec et al. used the GAPS screening-tool in two Detroit-area school-based health centers to understand how demographic, behavioral, and environmental risk variables related to adolescent depressive symptoms.[17] Records of GAPS screening-tool responses from 672 adolescents were reviewed retrospectively with multivariate regression models. More specifically,

GAPS screening-tool responses were used to identify the relationships between various factors (such as address, family history, weight, or drug-use) and adolescents' emotions (such as if they have fun or seriously think about suicide). Michael Kopec's multivariate model "revealed that female gender, sexual activity, weapon carrying, law trouble, poor physical activity, and a history of abuse were most strongly related to self-reported depressive symptoms." [17] Ironically, "substance abuse was not a significant factor after controlling for potential confounders."[17] Multivariate analyses of GAPS screening tools improved understanding of associations between adolescent health risk behaviors.

Summary of Barriers to Use of the GAPS Screening-Tool

- Time required for screening-tool administration in clinics with multiple patients and treatment responsibilities.
- Lack of financial support for the clinic and inadequate reimbursement of the clinic and physician for services.
- Lack of knowledge about prevention of adolescent risk behavior on behalf of the medical provider.
- Medical providers unwilling to use the screening-tool.
- Medical provider hesitancy to address certain risk-behaviors (e.g. sexual health, gang violence).
- Unavailable screening-tool forms (printing costs).
- High expense of local site coordinators or AMA consultants.

Summary of Barriers to Adolescent Care

- Poverty
- Lack of health insurance

- Confidentiality concerns
- Lack of adolescent knowledge about insurance coverage
- Transport to health clinics if a school-based health clinic is unavailable.
- Time required for a health clinic visit

Adolescent Concerns post-2010: The United States and Denver

Adolescents represent a proportion of the United States population that has not been ignored. The 2010 United States Census counted 47,408,419 people of ages 11-21 in the US, representing more than 15% of the US population.[37] While the AMA's GAPS has been used to assess adolescents visiting health clinics, other surveys have been used to assess adolescent health behavior across the United States. Notable among these is the Youth Risk Behavior Survey (YRBS), which "monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults."[3] Monitoring of health-risk behaviors among adolescents has also allowed for analysis of relationships between health-risk behaviors and other health outcomes. For example, in 2011, the CDC division of Adolescent and School Health used YRBSS data to report:

> "*Insufficient sleep on an average school night was reported by 68.9% of students. Insufficient sleep was associated with higher odds of current use of cigarettes (age-adjusted odds ratio [AOR], 1.67; 95% confidence interval [CI], 1.45–1.93), marijuana (AOR, 1.52; 95% CI, 1.31–1.76), and alcohol (AOR, 1.64; 95% CI, 1.46–1.84); current sexual activity (AOR, 1.41; 95% CI, 1.25–1.59); seriously considered attempting suicide (AOR, 1.86; 95% CI, 1.60–2.16); feeling sad or hopeless (AOR, 1.62; 95% CI, 1.43–1.84); physical fighting (AOR, 1.40; 95% CI, 1.24–1.60), not being physically active at least 60 min ≥ 5 days in the past 7 days (AOR, 1.16; 95% CI, 1.04–1.29), using the computer ≥3 h/day (AOR, 1.58; 95% CI, 1.38–1.80), and drinking soda/pop N1 time/ day (AOR, 1.14; 95% CI, 1.03–1.28).*"[24]

Other national surveys of adolescent health behavior include The National Longitudinal Study of Adolescent Health, the CDC's Behavioral Risk Factor Surveillance System

(BRFSS), the USDHHS Child and Adolescent Health Measurement Initiative's National Survey of Children's Health, and the National Adolescent Student Health Survey. These surveys have been used to describe, monitor, and analyze adolescent health in the United States.

The 2010 United States Census counts adolescents by state and county. There were 740,048 adolescents from ages 11-21 in Colorado, representing more than 14.7% of Colorado population.[37] 71,950 of these adolescents reside in Denver country, comprising 12% of the county's population.[37] 35,578 of these adolescents in Denver County are within 13-18 years of age (6% of Denver County).[37]

Denver County adolescent health statistics include high rates of teen pregnancy, substance abuse, and violence. The *Health of Denver 2011* report found that, "Denver has a higher rate of teen births than Colorado."[12] Furthermore, adolescent health in Denver is particularly disparate among derived race. For example, "the [teen birth] rate among Hispanic teens is significantly higher than any other race and ethnicity" in Denver County (*Source: Vital Statistics).*[9] Despite these high rates, the fact that, "the rate of teen births has been steadily decreasing in Denver Colorado" evidences adolescent health improvement is possible in Denver.[9]

On August 9, 2012, a report summarizing the findings from the Healthy Kids Colorado Survey (HKCS) administered to the 9-12th grades in Denver Public Schools during the 2011-2012 school year was released.[5] This report revealed that 28% of these students drank alcohol during the past 30 days, 25% were in a physical fight in the past year, 24% were not vigorously physically active for at least 60 minutes in the past week, 41% have had sexual intercourse, 15% seriously considered attempting suicide in the past

year, and 6% attempted suicide in the past year.[5] Mildly stated, there is room for improvement of Denver adolescent health. Denver Health has opportunities to provide counseling that helps lower rates of adolescent alcohol drinking, fighting, unhealthy weight perception, teen birth, and suicide while raising the percent of adolescents that feel safe and are physically active.

Summary of GAPS-related Literature Review

GAPS-related research was reviewed to signify the importance of adolescent preventive health services, evaluate use of the screening-tool in other clinics, avoid repetition of previous research, and improve academic and clinical research with the Denver Health ACHH screening-tool. Understanding and monitoring adolescent health is important for several reasons. First, adolescent health has been worsening over time in the United States and treatment or counseling of health issues can be improved. Adolescent health should also be a concern in Denver because adolescents make up 6% of the Denver County population and are at risk for future health problems. In certain clinics, the GAPS have been used for increasing adolescent preventive services given to adolescents, thus improving adolescent treatment and counseling and hopefully adolescent health. Therefore, the GAPS-derived ACHH has a chance of creating similar improvements. However, GAPS-related research has revealed that merely issuing the clinical guidelines and screening tool to health clinics does not ensure screening tool administration by physicians or response from adolescents. In the past, more steps than predicted were needed, such as improving health policies and physician behavior, to raise GAPS screening-tool administration rates and maintain consistent use among health

clinics. Furthermore, research was restricted due to limiting accuracy of GAPS statistics caused by wide variance of GAPS use between different health clinics.

GAPS related literature review informs Denver Health that the ACHH can help but is not the final answer for improving adolescent preventive health services. Broader health policies and physician behavior must improve. Barriers to screening-tool use and adolescent care summarized above must be reduced. The method of ACHH use at different clinics should be standardized to enable research to be generalized to broader adolescent populations.

GAPS related literature review could also encourage Denver Health. Training medical care providers in use of the GAPS-screening tool improved rates and quality of screening-tool use; so training in ACHH use could produce similar results. In addition, research using GAPS screening-tools has been possible and improved understanding of the associations between adolescent health-risk behaviors; the similar ACHH may also be able to contribute to adolescent health research. The ACHH could contribute to knowledge of how health risk behaviors are associated with mental health, though Research on how the number of sexual partners is associated with health risk behaviors should not be repeated. Furthermore, research showing that adolescents and their parents strongly supported the GAPS screening-tool as well as physician involvement for reduction of health risk behaviors means that they are likely to approve of similar methods for research and treatment at Denver Health. Training in ACHH methodology could reduce barriers to successful use of ACHH screening-tool in preventive healthcare and research.

CHAPTER 3: METHODOLOGY

Understanding Denver Health's "Adolescent Confidential Health History"

Medical care providers at Denver Health were interviewed in 2012 to investigate potential history of the ACHH, ACHH screening-tool procedures, and perceived ACHH limitations.

As noted previously, Denver Health created an adolescent confidential health history screening-tool using a selection of questions from the AMA GAPS tool in an effort to screen adolescents visiting health clinics for high-risk behaviors and help reduce individual's health risk behaviors once identified. Notable in Denver's adolescent preventive services is Dr. Kathy Love-Osborne, a pediatrician at Denver's Eastside Clinic, who was on a committee including leaders from School-Based Health Centers (SBHCs) and Crisis Centers. The first barrier vigorously attacked was the time required for screening-tool administration in clinics with multiple patients and treatment responsibilities. For this reason, the committee combined questions from the GAPS screening-tool and Sports Physical forms into a new, shorter, screening-tool completed in June 2009. The committee shortened the screening-tool by focusing on high yield questions and high-risk behaviors. High yield questions from sports physicals included questions about exercise and consumption of sweet drinks or fast foods. Additional questions requested specific information about school, work, stress, sleep, and future plans. Denver Health's screening-tool more explicitly used the word 'rape', which the GAPS tool had avoided. New questions were added identifying families affected by gangs and families that traveled to Mexico. Denver Health removed questions from the GAPS about friends' habits and adolescents' worries. The final version of the Denver

Health adolescent preventive services screening-tool, called the "Adolescent Confidential Health History" form, was completed in June 2009 and contained 53 questions. The final form, like the GAPS screening tool, requested information about adolescent medical history, athletic health, family health and relationships, eating/weight, school, drug use, sexuality, violence, and emotional status, but did so more concisely. The ACHH may be viewed in APPENDIX 1.

Denver Health providers believed this screening-tool would help Denver Health clinics not only describe Denver County adolescents' health behavior, but also make necessary steps in reaching and supporting them. Though improving adolescent health behaviors requires the involvement of an entire community, Denver Health has a significant role to play. The integrated multilevel health system of Denver Health has an extensive network of health clinics that provide unique opportunities to study adolescent preventive service screening and adolescent health behaviors. Denver Health's eight community health centers (the largest being the Gibson Eastside Family Health Center and the Sam Sandos Westside Family Health Center) and 12 school-based health centers provide many connections to adolescents.

Between 2009 and 2011, the quality of administration of Denver Health's adolescent health screening-tool was not assessed and questionnaire responses were not analyzed in aggregate. More than 1000 completed questionnaires from various neighborhoods in Denver County provide a unique ability to study trends and identify concerns within Denver's adolescent population because the questionnaire provides 53 facts about the emotional status, sexuality, violence, relationships, drug-use, and physical health of Denver's adolescent population. Data quality and representativeness have to be

examined before these facts are used to make decisions about adolescent care. Therefore, the first step was to reflect the quality of Denver Health's adolescent preventive services by calculating the percentage of adolescents completing the screening tool when they were expected to according to clinical protocol.

A screening-tool is ineffective if it is not used. A first step to increasing Denver Health's impact on adolescent health is to know when and in what clinics adolescents are not completing the screening-tool as expected. With this knowledge, Denver Health clinic leaders can develop strategies to ensure screening-tool completion. When 100% of adolescents complete questionnaires according to clinical protocol, Denver Health will have an accurate sample of their adolescent patient population, be able to make an accurate assessment of that population, and be able to more effectively improve adolescent health in the patient population. Effective adolescent health history screening could lead to more effective adolescent health treatment at the individual level.

Gibson Eastside Family Health Center: A Denver Health Opportunity

The Gibson Eastside Family Health Center (EFHC) is also called the Eastside Neighborhood Health Clinic. It "provides primary care for adolescents, HIV patients, children, infants, adults and seniors" as well as OB/GYN, midwife, dental, pharmacy and medical laboratory services.[8] The EFHC is less than three miles Northeast of Denver Health Hospital, both of which are in the center of downtown Denver, Colorado. EFHC is in Denver City Council District 8, while Denver Health Hospital is in the south of District 9. EFHC had 1,132 patients aged 13-18 visit in 2011 (several visited more than once, resulting in 2,336 clinic visits). The clinic visits of interest were those in which protocol prescribed Adolescent Confidential Health History screening-tool completion. These

visits are billed as routine child health checks, routine general medical examinations at a health care facility, general medical examinations for administrative purpose, and specified counseling sessions. Routine child health checks and known as "Well-Child Visits", while the same visit is described as a general medical examinations at a health care facility when the patient is 18 years old. Specified counseling usually denoted counseling for family planning and medical examinations for administrative purpose usually denoted sports physicals required for school athletics.

The Denver's Eastside Health Clinic adolescent screening-tool procedure is as follows: (1) the adolescent arrives at clinic for a visit and is registered under hospital services code for a family planning, pediatric or adolescent visit. (2) Adolescents 13-18 years old complete the screening tool in the waiting room when the visit is defined as a well-child visit, routine medical visit, or specified counseling visit. Occasionally, a twelve-year-old will complete it. (3) The adolescent begins to fill out the screening tool in the waiting room or visit room. (4) The Consent to Treatment is filled in the waiting room if prescribed. (5) The visit begins in an examination room. (6) The front page of screening tool is reviewed with parents. Questions on the front include medical history, sports physical questions and general medical concerns. (7) The parent is asked if there is anything else they are worried about. (8)Further parental questions are addressed if necessary. (9) The parent is asked to leave the room (a parent rarely refuses). (10) The second/back page (including more confidential questions regarding violence, gangs, drug use, and sex) of the screening-tool is reviewed by physicians. (11) The physician observes adolescent's level of eye contact, attentiveness to the screening-tool, and whether they fill out responses haphazardly. (12) The physician may prompt the

adolescent to verbally verify responses to screening-tool questions. (13) The physician uses his/her education to determine response to questions signifying need for preventive education or care. (14) The physician may need to ask the adolescent about which issues they would like to discuss the most. When possible, the physician will review all risk questions and determine what risks, such as abuse, sexual health, and intention for suicide, could be discussed or treated within the time available for the visit. When necessary, the physician will request subsequent visit to review other risk behavior questions detected by screening-tool. The risks discussed depend on and vary by physician.

The Adolescent Confidential Health History screening-tool helps the EFHC medical care provider direct treatment, give advice about participation in school athletics, counsel, and test for negative health conditions such as STIs. Aggregated responses help Denver Health and Denver Public Health calculate the prevalence of health risk behaviors in population of adolescents visiting EFHC. The behaviors of all Denver County adolescents are not represented, but medical care providers and public health professionals can assess prevalence of behaviors among patients visiting the EFHC. The ACHH screening-tool also requests demographic information from patients, which can be used to assess the demographics of patients visiting EFHC. For example, when comparing clinic demographics to county and district demographics, EFHC can determine whether patients are likely to be visiting from outside the district or if patients from select neighborhoods within the district are more likely to visit than patients from other neighborhoods. Comparing place of residence of clinic population with county population informs EFHC of what proportion of different Denver communities are being served.

Initial Concerns and Limitations

Surveys and questionnaires are often limited by factors such as non-response and inaccurate response due to variable interpretation of questions. Different types of non-response limit this thesis. First, non-response occurred when adolescents were not provided with questionnaires; adolescents did not always receive an ACHH screening-tool as directed by clinic protocol. Providers occasionally chose not to provide the questionnaire during the adolescents' first visit of the year, but later in the year (often due to demand of several patients in one day). In other cases, providers did not use the screening-tool or were hesitant to address some risk behaviors covered by the screening-tool. Unfortunately, an adolescent patient might not have received the form because of confusion about the type of visit being billed. After the patient visit, non-response occurred if the questionnaire was not scanned into the Electronic Document Management (EDM) system of Denver Health. Fortunately, when questionnaires were provided to adolescents, the questionnaires were usually completed by the adolescent, filed for scanning, and then scanned to the EDM. Medical care providers at Denver Health reported that most adolescents filled out the form when it was given to them and missing responses to individual questions was minimal. Despite potential for non-response, Dr. Love-Osborne estimated that screening tools were used for more than 90% of 13-18 year olds on Well-Child Visits at EFHC.

Denver Health pediatricians believe the questionnaire is an accurate screener for health risk behaviors. Dr. Love-Osborne and Dr. Hambidge believed adolescent patients rarely adjusted their answer to provide a socially desirable response. Error and variation in response was due to variation in question interpretation. Dr. Love-Osborne believed

the most common problems with questionnaire administration were inattentiveness to the screening-tool (by adolescents or medical care providers) and the effect of hovering parents. However, she estimated that fewer than five parents per year refuse to leave the medical care provider and patient alone in the examination room. Medical care providers were able to limit variation in ACHH question understanding because they were present with adolescents. Providers were available to answer the adolescent's questions, probe responses, and write additional notes on the questionnaires. The providers could also notice visual cues that the adolescent was struggling with the form or treating it flippantly, and assist adolescents accordingly. Questionnaire response accuracy was promoted by provider attentiveness to adolescents' completion of the Adolescent Confidential Health History screening-tool.

In summary, the Adolescent Confidential Health History (ACHH) can describe clinic populations and health risk behaviors. Monitoring and understanding adolescent health risk behaviors is important so that health professionals can help reverse negative trends in adolescent health behaviors that have been observed in the United States. The usefulness of the ACHH merits a study of whether or not the ACHH screening-tool is being provided as directed at Denver Health Clinics and whether information from the ACHH has the ability, as the GAPS screening-tool has, to inform both research and responses related to adolescent health behaviors. This thesis investigates those two questions.

Methods

The Adolescent Confidential Health History is a questionnaire handed to 13-18 year-old patients examined during Well-Child Visits at Denver Health's Eastside Family Health Clinic, Westside Family Health Clinics, and Denver County's school-based health clinics. The questionnaire was designed specifically to be self-administered but medical care providers were allowed to explain the questions if the patient wanted clarification. The questionnaire was designed to be a screening-tool that aided medical providers with in-clinic health counseling. The questionnaire was not designed for research purposes. Therefore, this report is based exclusively on secondary data analysis. Research involved analysis of existing data protected by Denver Health that was investigated in such a manner that the subject could not be identified directly or through identifiers linked to patients. Denver Health clinics obtained informed consent from participants through the 'Consent to Treatment' form approved by HIPAA regulations. Consent was provided before this report was anticipated and prior to questionnaire administration. This thesis study was approved by the Colorado Multi-Institutional Review Board and received a certificate of HIPAA compliance on December 7, 2012. This thesis was approved for a full waiver of HIPAA authorization because it involved only secondary data analysis of data that could not be used to identify patients. This certificate may be viewed in Appendix 8, the certification of exemption in Appendix 9.

Aim 1: To determine the number of adolescent health screening-tools administered within Denver Health clinics in 2011 with respect to the number expected to be completed according to clinic protocol. The first step was to determine the number of routine adolescent patient visits in which completion of the ACHH was prescribed. The

ACHH was prescribed (and patients qualified for study) for patients who were 13-18 years of age and billed for routine infant or child health checks, routine general medical examinations at a health care facility, other specified counseling, and other medical examinations for administrative purposes. These billings were identified by ICD9 (the International Classification of Diseases, 9th revision) codes V20.2, V70.0, V65.49 and V70.3 (respectively) in Denver Health's electronic document management system. The first patient visits in the calendar year were selected and duplicate entries for the same type of visit in 2011 were deleted. Furthermore, if a patient had more than one billing, the patient was categorized with the billing listed before it. For example, if a patient was billed as both V70.0 and V65.49, the patient was treated as V70.0 in the study. Patient results were not to be duplicated. As a result, the occurrence of visits identified as other specified counseling (or family planning) were underrepresented; if a patient had routine child visit, they were placed in that category and no others. Patient visits were not only stratified by type of visit, but also by clinic, gender, and age group (13-15, 16-18). Stratifications informed sampling of Adolescent Confidential Health History screening-tools. Visits were searched within the Denver Health Data Warehouse using SQL Server Management Studio 2008.

Medical records of patients who were expected to receive the Adolescent Confidential Health History screening-tool records were searched for completed questionnaires via a medical record imaging system called the Electronic Document Management (EDM) system, which is deployed throughout Denver Health facilities. Patients were recorded as completing an ACHH screening-tool if the screening tool was visible in the EDM and had responses marked on both of its two pages. All of the

patients visiting Eastside Family Health Center were reviewed for questionnaires. Patients visiting Westside Family Health Center did not have Adolescent Confidential Health History questionnaires scanned into the EDM and were subsequently deleted from the study. There were 3828 adolescents visiting school-based health clinics who were expected to complete an ACHH screening-tool. There were 12 school-based clinics and the desired sample size for each was calculated with expected questionnaire completion of 80%, 95% confidence limits, and a design effect of one. OpenEpi (*OpenEpi.com/v37/SampleSize/SSPropor.htm)* was used to calculate sample size. A sample of records from students visiting school-based health centers was randomly reviewed for screening-tool completion. Questionnaire completion proportions were stratified by school-based clinic, gender and age group (13-15, 16-18).

Aim 2: The second aim was cross-sectional retrospective cohort review of adolescent patient responses. The first-in-the-year visits of 428 of 451 patients (94.9%) who had a Well-Child Visit at Denver Health's Eastside Neighborhood Clinic in 2011 were selected for analysis. Screening-tool responses from each patient were entered into a Microsoft Access 2007 database. This study examined only Eastside Neighborhood Clinic because 100% of the patients were sampled and 95% of their responses could be entered. Responses from Eastside Neighborhood Clinic were analyzed with SAS Enterprise Guide 4.2 and SAS 9.3. Responses were aggregated and reported by Adolescent Confidential Health History question. Several questions with more than two response options were dichotomized to simplify odds ratio analysis and prepare for logistic regression modeling. In several cases, responses of "not sure" were altered to "no" or "missing." Altered questions are listed and described in APPENDIX 2.

Overall population frequencies of categorical demographics and questionnaire responses were recorded in Appendix 2 to provide a baseline overview of Eastside Family Health Center adolescent health. Health behavior prevalence was compared between males and females as well between those reporting Hispanic, Black, or White ethnicity.

Aim 3: The third aim was inductive analysis; observations were used to search for patterns, develop a tentative hypothesis, and suggest a theory. Inductive analysis was the directive of Denver Health: the approved COMIRB protocol directed that the investigator "produce descriptive analysis of screening-tool responses and generate hypotheses from significant relationships." When health behavior prevalence was compared between different derived race/ethnicities, significant variation in reported health risk was noted.

Odds ratios were calculated between question pairs to compare the odds of one risk behavior occurring with or without the presence of another risk behavior. Furthermore, questions were tested in pairs to measure what percent of patients (of 428) responded "No" to both questions, "Yes" to both, or left both were unanswered. The proportion of patients providing the same answer between question pairs was calculated for each question pair (51 questions resulted in 1275 unique pairs). If all of the patients in the sample provided the same response for two questions, the questions were linked to one another in the sample; the questions may not be independent of one another. Inference with a p-value was invalid with respect to determining significance of odds ratios because the ratios were determined by census and the population under study was not representative of broader populations.

The Adolescent Confidential Health History screening-tool responses were divided into the following categories: medical history, athletic health, family health and relationships, eating/weight, school, drug use, sexuality, violence, and emotional status. The sum of risks among different categories was calculated for each patient. A patient who reported being under a lot of stress, not having fun in the last two weeks, often feeling sad in the past month, and seriously thinking of suicide, was given a maximum risk score of four in the "emotional" category. A patient who reported being abused, been in a fight or assaulted in the past 3 months, needing to carry a weapon, having a close personal friend die of gang-related violence in the past three months, and having gangs a part of life currently or in the past, was assigned a "violence" maximum risk score of five. A patient who reported not using condoms when having sex, not using birth control besides condoms when having sex, having themselves or a partner be pregnant, and having been treated for a sexually transmitted infection was given a maximum risky sex score of four. Whether or not the patient had tried other (not tobacco, marijuana, alcohol, prescription, or over-the-counter) drugs, smoked cigarettes occasionally/regularly or not, drank alcohol (by 3 degrees), or smoked marijuana (by 3 degrees) were summed to provide a maximum risk score of 8 for drug use. A "school trouble" score was assigned by giving patient a score of 0 if they had grades of A's or B's had a risk of 0, 1 for C's or D's, 2 for F's and adding a point to the score if the patient had dropped out or been suspended. A patient who reported not exercising for at least 30 minutes or more three times a week, being dizzy during exercise, passing out during exercise, having had a concussion or been unconscious, having trouble breathing or coughing during or after exercise, having chest pain during or after exercise, and having

racing of heart or skipped heart beats was assigned a maximum "athletic risk" score of 7. Risk category scores were not created for categories such as eating/weight health, family and relationship health, or medical history. A total risk score was created summing the (Yes=1, No=0) response of each of 51 dichotomous variables. Odds ratios were calculated to compare the odds of one risk behavior occurring according to risk category and to test if there was variation in categorical average score between males and females, older and younger patients, or different derived races.

Multivariable logistic regression modeling was used to assess how associations between two health behaviors (a dichotomous outcome and a primary risk factor) were affected in the presence of other health behaviors. Outcomes of interest proposed by the Denver Health team involved in the COMIRB application process included measures of sexual activity, marijuana use, and problems with being sleep or being tired often. Dichotomized, these measures were of whether or not the patient had problems with sleep or being tired often, whether or not the patient had had sexual intercourse, and whether or not the patient smoked pot regularly or occasionally. In this inductive process, health risk behaviors that occurred frequently and pairs of behaviors that had large odds ratios guided research.

Health risk behaviors were analyzed to assess whether they potentially confound the relationship between a primary risk factors of an outcome interest. For a predictor to be a confounder it had to be related both to the outcome of interest and the primary risk factor. When p-values provide a valid method for determining significance, a variable that is significantly associated (Chi-Square Test p-value < 0.05) with the both the outcome of interest and the primary risk factor is a potential confounder and can be

included in a multivariable logistic regression model. In this case, an independent risk factor is assumed to be a primary variable that is significant (at the 0.05 alpha level) in the presence of its confounders. However, p-values were not a valid measurement of statistical significance in this study.

Due to limitations of p-value interpretation, health risk behaviors were postulated as confounders if there was a priori knowledge of confounded effects. When analyzing data using multivariable logistic regression, if the odds ratio between the primary risk factor and the outcome changed by 10% or more, the potential confounder was included in the model. If confounding was present according to this 10% rule, the adjusted odds ratio was reported.

Results

Aim 1: At the Gibson Eastside Family Health Center (EFHC), there were 485 patient visits in which Adolescent Confidential Health History (ACHH) screening-tool completion was expected. 10 patients visited EFHC another time in the year for a similar visit, but these visits were not investigated because the ACHH tool was supposed to be completed during the year's first visit and because visit repeats represented 2% of all visits. Of the 485 visits, 433 were for routine child health checks, 41 had routine general medical examinations, 10 were general medical examinations for administrative purposes, and 10 were for other specified counseling. A few visits were listed as routine child health checks and another general medical examinations; the general medical examinations and other specified counseling were counted when they were the only diagnosis type. Of these patients, 451 (93%) were both screened and had their screening tools scanned as Denver Health electronic medical records. Dr. Kathy Love-Osborne's

estimate that screening tools were completed for more than 90% of 13-18 years olds having Well-Child visits at EFHC was confirmed by review of patient records for scanned and completed questionnaires available within the EDM in 2011. ACHH completion patterns by visit type, age, and gender at Eastside Clinic are described in Appendix 3, Chart 1.

Denver Health's school-based health clinics included in the study were JFK High School, Kepner, Lincoln High School, MLK Middle School, North High School, Rachel Noel Middle School, West High School, Kunsmiller, Lake Middle School, Manual High School, Montbello High School, and South High School. 3828 adolescents visiting school-based health clinic were expected to complete an ACHH screening-tool in 2011 because they visited for routine child health visits, general examinations at a medical facility (a routine health visit for those 18 years old or older), general examinations for administrative purposes, or other specified counseling. In total, the medical records of 1581 of these patients were reviewed for completed ACHH screening tools. The combined expected number of patients completing ACHH screening-tools from each school suggested that approximately 40.5% of patients at each school-based heath center be sampled. The school-based health centers were not sampled equally across schools, but within a range of 40.3% to 43.5% (Average sampling proportion = 41.4%, Standard deviation of 0.94%). 41.3% of the adolescent first-visit-of-the-year patients at school-based health centers were sampled and had an overall questionnaire completion proportion of 58.3%. The questionnaire completion proportion was highest at West High School's school-based health center (92.8%) and lowest at Rachel Noel Middle School's school-based health center (0.0%). Rachel Noel Middle School's completion proportion

decreased the average. Schools with very low ACHH completion proportions either did not administer questionnaires or did not scan questionnaires into the EDM. School Based Health Centers' ACHH completion patterns by school, gender, and age are described in Appendix 3, Chart 3 and Chart 4.

At school-based health centers, the return of students for a second routine Well-Child visit in the year occurred to a greater degree than at Eastside Family Health Center. 762 of the 3828 patients returned for another visit of the same type within 2011. 581 students visited twice, 117 students visited three times, 41 students visited four times, and 23 students visited more than four times for these same four categories of visits. To check if ACHH screening-tools were completed in subsequent rather than first visits in 2011, 20.6% of patients having subsequent visits were sampled. In all schools, of 101 patients who did not receive an ACHH questionnaire on their first visit and yet had further visits, 16.3% received an ACHH questionnaire on another routine medical visit in the year. Therefore, the proportion of adolescents completing ACHH screening-tools out of the number expected is underrepresented. Descriptions of these visit patterns at school-based health centers are described by chart in Appendix 4, Chart 1.

Adolescent Confidential Health History screening-tools from adolescent visits to Westside Community Health Clinic in 2011 may have been completed but systematic review found that the questionnaires were not available within the EDM. ACHH completion patterns by visit type, age, and gender at Westside Family Health Center are visible in Appendix 3, Chart 2.

Eastside Family Health Center had the highest ACHH completion proportion of all the Denver Health centers and clinics. For this reason, this center was chosen as the

site in which to perform a cross-sectional retrospective cohort review of adolescent patient responses and study associations between demographic and behavioral health risk factors.

At Denver Health's Eastside Family Health Center in 2011, 36.8% of the patients completing ACHH screening-tools had someone die in their family before 55. 29.9% were unhappy with their eating habits or their weight. 24.9% had friends who had been in trouble with the law. 14.9% smoked marijuana regularly or occasionally. 31.1% had sexual intercourse. 17.8% of those having sexual intercourse did not always use condoms. 6.4% of the patients were raped or pressured to have sex when they did not want to. 30.8% were under a lot of stress. 34% had problems with sleep or being tired. 22.9% had felt sad, down or as though they had nothing to look forward to during the past month. 5.7% seriously thought about killing themselves, threatened to, or actually attempted suicide. Baseline health outcomes at Eastside Clinic are described in more detail within Appendix 5, Chart 1.

Bivariate Associations, Focus on Gender and Race

Gender was investigated for association with health factors and bivariate results were reported. Females were 3.5 times less likely than males to exercise vigorously for at least 30 minutes three times a week, 1.8 times more likely to feel dizzy during exercise, half as likely to ever have had a concussion or been unconscious, 1.7 times more likely to have trouble breathing or coughing during exercise, and 2.1 times as likely to have chest pain during or after exercise. Females were 1.7 times more likely than males to wear helmets if they rode bikes, skateboarded, or used rollerblades; 1.9 times less likely be in trouble with the law or have friends that are; and 1.8 times less likely to regularly receive

grades of Cs or lower. Boys and girls did not differ with regards to regular cigarette, marijuana, alcohol use, or having ever had sex. However, females were 22.4 times more likely to have been treated for a sexually transmitted infection than males; 4.4 times more likely to have been physically, sexually, or emotionally abused; and 2.8 times more likely than males to ever have been raped (includes "date rape") or pressured to have sex when they didn't want to. Females were 2.6 times more likely than males to be unhappy about their eating habits or weight, 2.1 times more likely to be under a lot of stress, 2.0 times more likely to not have had fun in the past two weeks, 2.5 times more likely to have problems with sleep or being tired often, and 2.1 times more likely to have felt sad, down, or as though they had nothing to look forward to during the past month. For a table including health behavior frequencies by gender and the odds of one behavior occurring among one gender compared to another, view Appendix 5, Chart 2.

Derived race was investigated for association with health factors and bivariate results reported. Patients reporting "black" race visiting Eastside Clinic were 2.1 times more likely than Hispanics to take prescription or over the counter medications or dietary supplements, 2.1 times more likely to have someone die in their family before 55, and 1.9 times more likely to have had themselves or friends get in trouble with the law. Patients reporting Hispanic race were 3.9 times more likely than blacks to have travelled to Mexico, or have a family member travel to Mexico in the past year and 4.7 times as likely to have tried vomiting, diet pills, laxatives, or starving to lose weight, or ate in secret. Patients reporting "black" race visiting Eastside Clinic were 3.5 times more likely than whites visiting to have all four of their grandparents still alive. Whites were 2.6 times more likely than Hispanics to have trouble breathing during exercise, 2.3 times

more likely to have a family member die before 55, 4.6 times more likely to not have all four grandparents still alive, 2.3 times more likely to be in trouble with the law or have a friend that has been, and 2.6 times more likely to feel sad, down, or as though they had nothing to look forward to in the past month. Baseline health outcomes stratified by race are described in greater detail within Appendix 5, Chart 3.

The following odds ratios between health behaviors of patients at Eastside clinic were larger than 15-fold. Directionality in relationships could not be determined; for each of the following statements the reverse is true. For example, patients who smoke marijuana were 38.5 times more likely to drink alcohol regularly than patients who had never tried marijuana and vice versa. Patients who smoke cigarettes regularly were 19.7 times more likely to drink alcohol than those who did not smoke, 17.3 times more likely to try other drugs, 15.9 times more likely to have had sex before, and 21.2 times more likely to have been treated for an STI. Patients who had been physically, sexually, or emotionally abused were 33.6 times more likely to have been raped or pressured to have sex than patients who had not been abused than patients who were not abused. They were also 18.2 times more likely to have ever seriously thought about killing themselves, threatened, or actually attempted suicide. Patients who had been pregnant or had a pregnant partner were 28.8 times more likely than those not experiencing a pregnancy to have been tested for an STI. Patients with breathing trouble during or after exercise were 21.4 times more likely to have chest pain when exercising than patients who did not have breathing trouble. Other Bivariate Odds-Ratios are described in Appendix 6, Chart 1.

Grouping Questions by Category, Associations with Categories:

After assigning questions to categories, the risk scores were used to compare between genders (Table 1), age groups (Table 2), and derived races (Table 3).

Table 1. Comparing Gender by Question Category Risk Score. Denver Health EFHC (N=248).

	Males (n=188)		Females (n=240)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	3	0.53	0.88	4	0.35	1.7
Violence Score	4	0.30	0.32	4	0.02	1.1
Risky Sex Score	2	0.28	0.38	3	0.10	1.4
Drug Score	7	0.59	0.59	8	0.00	1.0
School Trouble Score	4	1.58	1.39	4	-0.19	0.9
Athletic Risk Score	5	0.89	1.39	6	0.50	1.6
Total Risk Score	26	10.03	11.25	35	1.22	1.1

Table 2. Comparing Age Groups by Question Category Risk Score. Denver Health EFHC (N=248).

	Younger (13-15) (n=265)		Older (16-18) (n=163)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	4	0.71	0.75	4	0.04	1.1
Violence Score	4	0.27	0.37	4	0.10	1.4
Risky Sex Score	2	0.19	0.57	3	0.38	3.0
Drug Score	8	0.41	0.88	7	0.47	2.1
School Trouble Score	4	1.48	1.46	3	-0.02	1.0
Athletic Risk Score	6	1.16	1.19	5	0.03	1.0
Total Risk Score	32	10.15	11.63	35	1.48	1.1

The average risk per category was higher for females than males with the exception of school trouble and drugs. Females were 10% less likely than males to have school trouble. Females and males were equally likely to report drug use at equal levels. The greatest difference in categorical risk average between the genders was in the emotions category. On average, females were 1.7 times more likely than males to report being under a lot of stress, not having fun in the last two weeks, often feeling sad in the past month, or seriously thinking of suicide.

Older students tended to have higher risk averages per category with the exception of school trouble and athletic risk. These two categories were consistent as age changed from 13-15 to 16-18. The largest change as age increased from 13-15 to 16-18 was in risky sexual behavior. Patients between the ages of 16 and 18 were 6.2 times more likely to have had sex than patients between 13-15 years; it follows that patients of the older ages were three times more likely to report not using condoms when having sex, not using birth control besides condoms when having sex, having themselves or a partner be pregnant, or having been treated for a sexually transmitted infection.

Table 3. Comparing Derived Race by Average Question Category Risk Score. Denver Health EFHC (N=248).					
	Hispanic (n=240)	Black (n=155)	White (n=28)	Asian (n=4)	Native American (n=1)
Emotion Score	0.68	0.71	1.07	1.75	0.00
Violence Score	0.30	0.33	0.25	0.75	0.00
Risky Sex Score	0.29	0.41	0.25	0.50	0.00
Drug Score	0.65	0.56	0.35	0.00	0.00
School Trouble Score	1.47	1.49	1.46	1.25	1.00
Unathletic Score	1.06	1.26	1.57	2.00	0.00
Total Risk Score	10.30	11.09	11.89	13.75	6.00

When comparing Hispanics, blacks, and whites, it is whites that were at the highest average risk for emotional or athletic troubles; blacks who were the most threatened by risky sexual activity, and Hispanics who were at greatest risk for drug consequences. Hispanics and blacks were at greater risk for violence than whites, while differences in school trouble do not vary greatly among the three "derived" races.

The categorical risk scores also showed different averages in relation to Denver Health and Emory's three outcomes of interest. Each of the risk scores increased on average if a patient had sleeping trouble, sex experience, or smoked marijuana. A patient who reported problems with sleep or being tired often was 4.8 times more likely to have reported being under a lot of stress, not having fun in the last two weeks, often feeling

Table 4. Comparing Sleeping Trouble Occurrence by Question Category Risk Score. Denver Health EFHC (N=248).						
	No sleeping trouble (n=279)		Sleeping Trouble (n=144)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	3	0.41	1.35	4	0.94	4.8
Violence Score	4	0.19	0.55	4	0.36	2.9
Risky Sex Score	3	0.28	0.47	3	0.19	1.7
Drug Score	5	0.38	1.00	8	0.62	2.6
School Trouble Score	3	1.36	1.69	4	0.33	1.2
Unathletic Score	5	0.94	1.63	6	0.69	1.7
Total Risk Score	21	8.87	13.41	35	4.54	1.5

sad in the past month, or seriously thinking of suicide (Table 4). Not surprisingly, patients who had had sex before were more likely to have riskier sexual behavior than those who had not had sex (Table 5). Patients who had had sex were also 3.9 times more likely on average to report being abused, having been in a fight or assaulted in the past 3

months, needing to carry a weapon, having a close personal friend die of gang-related violence in the past three months, or having gangs as a part of life currently or in the past.

Table 5. Comparing Sexual Experience by Question Category Risk Score. Denver Health EFHC (N=248).						
	No Sex Experience (n=292)		Sex Experience (n=132)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	4	0.62	0.96	4	0.34	1.5
Violence Score	4	0.16	0.62	4	0.46	3.9
Risky Sex Score	2	0.05	0.95	3	0.90	19.0
Drug Score	8	0.23	1.33	7	1.10	5.8
School Trouble Score	3	1.39	1.64	4	0.25	1.2
Unathletic Score	6	1.04	1.45	5	0.41	1.4
Total Risk Score	25	8.94	14.55	35	5.61	1.6

Not surprisingly, those who had tried smoking marijuana were more likely to have other risky drug behaviors (this result is exaggerated because the Drug Score category included scores for levels of marijuana use). Like sexual activity, those who

Table 6. Comparing Marijuana Smoking Experience by Question Category Risk Score. Denver Health EFHC (N=248).						
	No Pot (n=360)		Pot Before (n=63)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	4	0.68	1.05	4	0.37	1.5
Violence Score	4	0.21	0.94	4	0.73	4.5
Risky Sex Score	2	0.25	0.87	3	0.62	3.5
Drug Score	4	0.11	3.40	8	3.29	30.9
School Trouble Score	4	1.40	1.86	4	0.46	1.3
Unathletic Risk Score	6	1.09	1.63	5	0.54	1.5
Total Risk Score	26	9.70	16.75	35	7.05	1.7

smoked marijuana were more likely on average to also report risks related to violence. Average risk among question categories also was greater among English speakers than patients who primarily spoke Spanish. English speakers were more likely than Spanish speakers to report emotionally challenges, violence in their life, risky sexual behavior,

Table 7. Comparing Primary Language by Question Category Risk Score. Denver Health EFHC (N=248).						
	Spanish Primarily (n=107)		English Primarily (n=307)		Difference in Avg.	Multiplicative Increase
	Max	Average	Average	Max		
Emotion Score	4	0.63	0.74	4	0.11	1.2
Violence Score	4	0.29	0.31	4	0.02	1.1
Risky Sex Score	2	0.22	0.38	3	0.16	1.7
Drug Score	5	0.42	0.67	8	0.25	1.6
School Trouble Score	3	1.46	1.48	4	0.02	1.0
Unathletic Score	5	0.91	1.25	6	0.34	1.4
Total Risk Score	24	9.47	11.14	35	1.67	1.2

drug use, and athletic troubles. English and Spanish speakers had fairly similar struggles in school.

Effect Modification by Gender: More Focus on Sleeping Troubles

The categorical differences between genders led to interest in describing whether gender modified the associations between health behaviors. Due to time constraints, only behavior relationships of interest to Denver Health lead investigators are described in this study. The relationship between gender and sleeping trouble (and interest on behalf of research supporters) led to testing how gender modified the association between sleeping trouble and other key variables. There was little (OR=1.0-1.1) association between genders and the other outcomes of interest (sexual experience and marijuana use).

Table 8. Association between sleepiness or tiredness and other health behaviors among males and females.

Males (n=188)	**Odds Ratio**	**Females (n=240)**	**Odds Ratio**
Sad or down	5.46	Sad or down	10.26
Not happy about eating, weight	3.59	Not happy about eating, weight	3.55
Stressed	3.09	Stressed	5.98
Got in a fight or was assaulted	3.31	Got in a fight or was assaulted	4.22
Dizzy During Exercise	2.98	Dizzy During Exercise	4.91
Grades were Cs or Lower	2.09	Grades were Cs or Lower	3.14

Several health behaviors were more likely to be associated with sleeping behaviors among females than they were among males. Females who were sad or down were 10.3 times as likely to report being sleepy or tired than females who were not sad or down, while males who were sad or down were only 5.5 times as likely to report being sad or down than males who were not. Females who were stressed were 6.0 times more likely to struggle with sleep or tiredness than unstressed females, while males who were

stressed were only 3.2 times more likely to have trouble with sleep or tiredness than unstressed males.

Similarity of Responses Between Question Pairs for Individual Patients

92.1% of patients provided the exact same answer when they responded to whether or not they needed a weapon and whether they had a friend who had died in a gang. Questions about the following health risks also had greater than 90% similarity with the question about needing a weapon: having a friend who died in a gang; having gangs as a part of life; having been abused; having serious suicidal thoughts; drinking alcohol often; making efforts to lose weight; having no adult to talk to; not getting along with family; not wearing a seatbelt; and having stayed overnight in a homeless shelter, jail, or detention center. In addition to the question about needing a weapon, questions about the following health risks had greater than 90% similar with the questions about drinking alcohol regularly: having serious suicidal thoughts; using other drugs; having gangs as a part of life; smoking cigarettes; trying to lose weight; having adults to talk to; wearing a seatbelt; and spending time in a shelter, jail or detention center. Questions about the following health risks also had greater than 90% similar with the questions about using a seatbelt: having gangs as a part of life; desiring to lose weight; having no adult to talk to; not getting along well with family; and spending time in a shelter, jail, or detention center. The following other questions about the following health risks had greater than 90% similarity with the question about whether gangs were a part of life: whether a close personal friend had died of gang-related violence in the past year; having serious thoughts of suicide; having no adult to talk to; and desiring to lose weight. Other questions about the following health risks had greater than 90% similarity with the

question about desiring to lose weight: having been abused; having serious thoughts of suicide; and spending time in a jail, shelter, or detention center. Other questions about the following health risks had greater than 90% similarity with the question about having been abused: being pressured to have sex and having serious thoughts of suicide. Furthermore, 90.4% of patients provided the exact same answer when they responded to whether or not they had an adult to talk to and whether they felt happy in their family. View Appendix 7 Chart 1 for a more detailed description of similarities between question pair responses.

Associative Logistic Modeling Using P-Values

This method of logistic modeling relied on the assumption that p-values could determine statistical significance at the 0.05 alpha-level (Chi Square Test was used). When p-values were assumed valid, whether or not the patient had sexual intercourse and whether or not the patient struggled with sleep were each statistically associated at the bivariate level with 31 other risk behaviors. Marijuana use occurred at a low frequency and resulted in invalid Chi Square tests (cell counts less than 5) when crossed with other variables. Therefore, marijuana use was not tested as a dependent outcome in logistic regression models. The many significant crude associations between health risk behaviors and sleeping trouble or sexual activity indicated increased likelihood of finding independent associations between them.

Variables were tested for significance as independent risk factors for sleeping trouble in associative logistic regression models with all potential confounders. Whether or not a subject had had sex was a significant independent risk factor for sleeping trouble (adjusted $OR=0.34$, $p<0.0148$). Therefore, adolescents who reported having had sex

were 66% less likely to report sleeping trouble, in the presence of potential confounders. Having an adult to talk to about feelings was not a significant independent risk factor for sleeping trouble (p=0.8058). Neither was family drug use (p=0.2951); having lived in a foster home, group, or shelter (p=0.3531); or having been abused physically, emotionally, or sexually abused (p=0.8892). Being Hispanic, being black, or being of ages 16-18 rather than 13-15 did not crudely associate with sleeping trouble. Therefore, these variables could not be independent risk factors.

Gender, however, was crudely associated with insomnia. Men were 59.5% less likely to struggle with sleeping trouble than women (OR=0.0405). The association between gender and sleeping trouble was significantly impacted by whether or not a subject or their friend had been in trouble with the law. This interaction remained significant within an associative logistic model including all potential confounders (p= 0.0162), but gender alone did not (p=0.8803).

Potential confounders of the association between gender and insomnia were tested for significance as independent risk factors. Being sad, down, or feeling like one had nothing to look forward to in the last month (p=0.0004) was an independent risk factor for sleeping troubles; so was being unhappy about eating habits and weight (p=0.0011); being dizzy during exercise (p=0.0077); and receiving grades lower than B's (p=0.0084). Therefore, the crude difference between genders in response to sleeping trouble may be the result of gender differences between reporting sadness, unhappiness with eating habits and weight, dizziness during exercise, or grades in school. Inferential determination of significance via p-values less than 0.05 suggests that sleeping troubles of adolescents are not affected independently by gender.

Variables were also tested for statistical significance as independent risk factors for sexual activity in associative logistic regression models with all potential confounders. Sexual activity was not crudely associated with gender, being Hispanic, or being black ($p=0.6396$, 0.2480, 0.3014). Whether or not the subject was in the age range 16-18 or 13-15 was an independent risk factor for sexual activity. Patients who were 16-18 years of age were 5.43 times more likely to report having had sex than patients who were ages 13-15, in the presence of potential confounders (adjusted OR=5.43, $p<0.0001$). In addition to age, being sexually, emotionally, or physically abused was an independent risk factor for sexual activity. In the presence of potential confounders, patients with this history were 2.81 times more likely than those without to report having had sex (adjusted OR=2.81, $p=0.0330$). Not having an adult to talk to about feelings was not an independent risk factor for sexual activity ($p=0.1094$), nor was having lived in a foster home, group home, or shelter ($p=0.7793$), or being in a family abusing drugs ($p=0.9758$).

CHAPTER 4: DISCUSSION

Summary of Results and How They Guide This Discussion

The Adolescent Confidential Health History was indeed being used at Denver Health Centers in 2011, and more specifically at visits for routine child health checks, routine general medical examinations at a health care facility, general medical examinations for administrative purpose, and specified counseling. Similarly to past research on GAPS screening-tool use, use of the Adolescent Confidential Health History (ACHH) varied widely across family and school-based health centers in Denver.

Question responses entered and studied in aggregate from ACHH screening-tools completed from Eastside Family Health Center (EFHC) revealed that certain health risk behaviors did vary by a demographic factor. Whites were more likely to report a risk than blacks or Hispanics were when responding to questions about emotions or exercise experience, however, whites were less likely than blacks or Hispanics to report a risk when responding to questions about violence. Blacks were more likely than whites or Hispanics to report risk when responding to questions about sexual activity. Hispanics where the most likely to report a risky behavior when responding to questions about drug use or involvement. Overall, whites were more likely to report a health risk when answering ACHH questions than either blacks or Hispanics. The greatest differences between males and females were in responses to questions about emotions, athleticism, and risky sexual activity. Female EFHC patients were more likely to report being sad, not having fun, being under stress, seriously thinking of suicide, and often feeling sleepy or tired than males.

These differences led to literature review of the associations between gender and emotions and associations between gender and sleeping trouble. The association between "emotional score" and gender was the greatest found between health and demographic categories, with exception to the increase in sexual activity with age, and the much greater "drug risk" among Hispanics than whites (which is limited by white's small sample size of 28 patients). Differences between genders with regards to sexual activity and marijuana use (outcomes of interest on behalf of Denver Health) were not reviewed because they did not differ greatly by gender. Both insomnia (the third outcome of interest) and "emotion score" varied by gender.

Before a discussion of the literature reviewing associations between gender, emotions, and sleeping trouble, the results from completing the first two aims of this thesis are discussed. Completion of the Adolescent Confidential Health history is discussed before a description of thesis limitations because incompletion of the screening tool and variation in completion between health centers caused the majority of the thesis limitations. Bivariate associations between health behaviors, results from grouping the questions into categories, and similarity of responses between question pairs will be discussed in more detail. Following the review of literature, the discussion will end with a brief comparison of EFHC data to YRBS and Healthy Kids Colorado Data.

Completing the Adolescent Confidential Health History Screening Tool

Eastside Family Health Center was the Denver Health center that used the ACHH screening-tool and scanned them as Denver Health medical records in the greatest proportion of its adolescents attending Well-Child Visits in 2011. School-based Health Centers in Denver used and scanned the screening-tool but to a varying degree in each

center. School-based health centers provide Well-Child Visits to a greater number of adolescent patients than the Eastside and Westside Family Health Centers; not only do school-based health centers outnumber family health centers in Denver, but also school-based health centers improve access to care because adolescents do not require transportation to the centers by parents or guardians. Actions taken to ensure most adolescent patients who visit each school-based health centers complete the screening-tool would increase the sample size to greater than 4000 adolescents. A larger sample size across various school-based health centers across Denver County would provide the ability to generalize study results to the Denver County adolescent population. Completed screening-tools from 2011 were not found at the Westside Family Health Center, possibly because they were not scanned into the Denver Health Electronic Document Management system. The 0% screening proportion at Westside Family Health Center during 2011 resulted in elimination of this clinic from the study. The lack of screening-tools at this center disallowed the comparison of Eastside and Westside clinic adolescent populations. The absence of results is still a significant finding, however. Medical care providers at Westside Family Health Clinic have been made aware that their ACHH screening-tools are not being scanned or saved among Denver Health medical records; and they are motivated to improve their results. Westside Family Health Clinic called attention to the fact that failure to scan and save the screening-tools is the final and crucial step required to secure ACHH completion. The system for scanning and uploading screening-tools after they are completed must improve if the screening-tool is to be used to describe the health behaviors of Denver County adolescents. If fewer

patients completed the ACHH than expected, that might not indicate low quality of adolescent preventive health, but rather a failure in a healthcare center process.

Further research is necessary to evaluate the quality of treatment and counseling after adolescents complete the screening-tool. Training of medical care providers in use of the ACHH screening-tool varies across Denver Health clinics. As evident in research described in this thesis' introduction, increasing standardized training in use of the ACHH screening-tool may improve the ACHH recording process, the quality of treatment and counseling of adolescents. Standardizing the method by which the screening-tool is used may also reduce systematic error and ensure more valid results. Adolescent preventive service screening-tools have faced difficulties in research use since the advent of the GAPS screening-tools in the 1990s. Limitations of past research caused by high variation suggest future analysts of the ACHH perform more careful (weighting, design effects) analysis of school-based and community clinic populations. Confounding factors such as primary providers, ethnicity, sex, and age should continue to be addressed.

Furthermore, the structure of the ACHH screening-tool could be edited to improve its research capability. For example, the screening-tool could be improved as a research tool by adding skip-patterns. Certain questions demand skip-pattern instructions. Upon review of screening-tool responses, adolescents who answer 'NO' to question #39: "Have you ever had sexual intercourse? If yes, how old were you the first time?" often answer 'NO' to questions 41 and 42 ("Do you and your partner(s) *always* use condoms when you have sex", "If you are sexually active are you (or your partner) using any birth control besides condoms?"). Questions 41 and 42 are irrelevant to a patient who has not

had sexual intercourse, and 'NO' is meant to indicate that they are having sex but not always practicing safe sex. When patients who have not had sex respond 'NO' to these questions, they over-represent the occurrence of un-safe sex in the sample. Fortunately, medical care providers and public health professionals are able to recognize this incorrect report during the visit or when recording data. Nevertheless, skip patterns in the screening-tool could reduce occurrence of this reporting error.

Variable interpretation of questions also creates research limitations, though a medical care provider may be able to accurately react to screening-tool responses. For example, adolescents' self-report of shortness of breath after exercise may result in overestimates of risk for conditions such as asthma, allergies, bronchitis, or pneumonia. Adolescents could report shortness of breath during exercise because various degrees of shortness of breath during exercise are normal. Troubles with sleep and regular tiredness could indicate insomnia or, simply, boredom with school. The medical care provider can distinguish whether the reported shortness-of-breath or troubles with sleep are health risks after further discussion with the adolescent patient. The trouble is that a secondary analysis cannot make this determination. Guidance of a medical care provider trained in use of the ACHH screening-tool may be crucial for reducing inaccurate classification of a health risk behavior. More specific questions could also be developed for the ACHH screening-tool.

It must be acknowledged that the advantage of a self-administered questionnaire is that it reduces the chance that the adolescent is providing a socially desirable response rather than an accurate one. Report of health risk behaviors such as sexual activity or using other drugs may have been affected by involvement of a medical care provider. In

conclusion, it is better to not interfere with the method by which the data was collected and best to consider limitations when interpreting it.

Limitations to Analysis

- The Eastside Family Health Center adolescent population is not generalizable to the Denver County adolescent population, the population in Colorado, or the United States. Baseline demographic data cannot define whether patient inflow represents visits from different sub-districts or different neighborhoods within one sub-district.
- The Eastside Family Health Center adolescent population was limited to 428 patients. The absence of scanned screening-tools from Westside Clinic resulted in a reduction of the study population. Screening-tools used at School-Based Health Centers were completed but unavailable for study due to time constraint.
- The sample size of 428 at EFHC and low percent of occurrence of certain health risk behaviors resulted in low frequencies of health risk behaviors. Odds Ratios measuring association between rarely occurring health risk behaviors could not be evaluated if no patient reported both health risk behaviors (Resulting in a cell value of zero within a cross-tabulation). Maximum likelihood estimation of the logistic model suffers from small-sample bias.
- The study represents a cross-sectional analysis completed in 2011. It cannot represent current times or trends over time.
- Twenty-three completed screening-tools were not included in the study (428 were sampled rather than the potential 451) because they were not entered into the MS Access database. These 23 screening-tools were reviewed in the Denver Health

EDM but could not be retrieved for the Eastside Access database because they were not entered before August 21, 2012, the summer due date. After August 21, 2012, the investigator was no longer in the University of Colorado Denver Health system and did not have protected access to private health information. Therefore, 23 screening-tools were not included due to time constraints and security of private health information.

- The sample size has a Male to Female ratio of 44%: 56% (188:240), is weighted towards females, and does not perfectly represent the population of adolescent patients visiting Eastside Clinic for Well Child Visits in 2011. The Male to Female ratio among adolescent patients visiting Eastside Clinic for Well Child Visits in 2011 was 47%: 53% (211:240). Males had completed all of the missing screening-tools noted above; if those screening-tools were not lost, the Male to Female ratio would have been accurate.
- Patient records were not weighted to adjust for oversampling of different age groups, females, or races.
- The Adolescent Confidential Health History questionnaire was created and used as a screening-tool rather than a research tool. As a result, there were open-ended questions and several questions could be interpreted in multiple ways. The screening-tool was self-administered and open to types of information bias. Adolescents may not have remembered health behaviors accurately. Adolescents were also able to skip questions or provide the socially desirable response.

- Responses were dichotomized for cross-tabulation analysis. This limited the analysis of health behavioral relationships with ordinal levels of sweet drink, fast food, alcohol, and marijuana use.
- Similarity between variables was tested through counts of matching responses between question pairs across the Eastside Family Health Center sample. Similar "no" answers between two questions were more likely to occur often if most patients responded with a "no" to both questions. For example, when 415 patients (97% of the sample) responded "no", they did not ever need to carry a weapon, and 408 patients (95.3% of the sample) said "no", they did not ever try vomiting, diet pills, laxatives, or starving to lose weight or eat in secret, then it is vary likely that many patients replied "no" to both questions. Therefore, similarity of response between two questions does not clearly indicate association between the health risk behaviors.
- Outcomes variable selection was guided by suggestions from Denver Health physicians and nurse practitioners, a priori knowledge, risk behavior frequency within the sample, or crude association with other health behaviors. With a larger sample, factor analysis may provide a more rigorous method of choosing outcomes and independent risk factors for meta-analysis.
- The Chi-Square Test could not be used to evaluate odds ratios because to inference of statistical significance through p-values was invalid. The Chi Square Test relies on a comparison between observed and expected values. However, this study used a census of the EFHC adolescent population completing ACHH screening-tools. Therefore, the observed result is the truth of the sample

population. The EFHC population of 2011 cannot be generalized to a broader population; a similar ratio should not be expected to occur again in a separate population. If an odds ratio observed within the EFHC sample is similar to an odds of the same one behavior occurring compared to the same other behavior in the US adolescent population, it is because EFHC population may be similar to US population. The United States population may be represented within the EFHC, but the EFHC does not represent the US population.

- Predictive logistic regression models could not be produced because some patients did not provide a response to some of the questions used as variables in logistic models.
- Multivariate logistic regression was not an accurate method for analysis because of the assumptions involved in using p-values to compare odds ratios. P-values should not be used to evaluate statistical significance because a census was taken of the desired population and that population cannot be generalized to adolescents who did not complete the ACHH form at EFHC in 2011.

Bivariate Associations

Many health risk behaviors were reported more prevalently among males than among females and visa versa. Some 'derived' races were more likely to report a certain health risk behavior than others. The greater the difference in a behavior prevalence the two groups, the more likely it was to generate interest. The Adolescent Confidential Health History screening-tool provided the opportunity to study 1275 unique associations between pairs of health risk behaviors occurring in a screened population. Time limitations to this thesis did not allow interpretation of every bivariate association, every

possible effect modification, or every potential confounder of a bivariate association. For this reason, specific outcomes of interest (sexual history, marijuana use, and insomnia) were chosen, and questions were grouped together to produce health behavior categories. The opportunity to study many unique health behavior associations encourages future research using the ACHH screening-tool.

Grouping Questions by Category

Grouping questions together may have been the most efficient method used to describe and interpret associations between health behaviors in the sample of Adolescent Confidential Health History screening-tool data. The systematic difference in responses to questions about emotions (feeling stressed, being sad, having fun, and contemplating suicide) between males and females is discussed in more detail when exploring research on how these emotions are associated with sleeping trouble. It was not surprising to find that the likelihood of having had sex increased with age. If it was encouraging that drug use increased with age, it was only because it meant that most patients in the younger age groups might not be starting to use drugs before the age of 16. Increases in violent behavior or being victimized as age increases are unfortunate. It is also unfortunate that older students did not have less trouble with school than younger students; a decrease in school trouble with age might indicate that older students have learned how to succeed in school.

Medical care providers should target whites at EFHC for mental health counseling and encouragement of physical activity. EFHC could target lessons about risky sexual activity towards black adolescents patients, drugs education towards Hispanic adolescent patients, and safety interventions towards both Hispanic and black adolescent.

Differences in these health behaviors by ethnicity at EFHC may be representative of similar trends among adolescents in Colorado. In the Healthy Kids Colorado survey in 2011, a higher percent of blacks (19 of 32: 59%) had been sexually active than Hispanics (49%) or whites (36%); a higher percent of Hispanics had tried marijuana (43%) than blacks (42%) and whites (36%); and higher percentages of blacks (35%) and Hispanics (33%) had been in a physical fight in the past month than whites (19%). If these behavioral trends among adolescents in Colorado continue, similar trends may occur within the EFHC population. If proportions and these relationships between ethnicities recur in different Colorado populations, it is more likely that they will recur at EFHC. For this reason, targeting these groups could be reasonable.

Furthermore, the interrelation between drug use and sexual risk taking indicates that targeting interventions to reduce drug use may increase abstinence among EFHC patients and vice versa. Targeting both risks could exponentially reduce the other. Similarly to the J. Dennis Fortenberry research using the GAPS tool,[11] as sexual behavior increased, participation in other health risk behaviors was likely to also increase. Marijuana use, like sexual behavior, should be regarded as an indicator that other health risks may be occurring. Response to the screening-tool also evinces that every adolescent reporting having had sex should be targeted with an intervention to reduce the likelihood of participating in risky sexual behavior. If a patient reports having had sex, the medical care provider should be more aware that the patient might also require counseling about mental health or violence they have been or are experiencing.

Results among Asians and Native Americans in this study are not described due to low prevalence of Asians and Native Americans in the study sample. The providers at

EFHC should be aware that patients whose primary language was Spanish were not more likely than primary English speakers to report risky health behaviors.

Similarity of Responses Between Question Pairs for Individual Patients

Interpretation of the analysis of similarity of responses between question pairs for individual patients is limited, as noted earlier among other limitations to analysis. Similarity between questions measured by the methods used previously should be disregarded. It should not be surprising that questions that were answered "no" to by more than 90% of the patients in the study would be similar to other questions in which more than 90% of the patients answered "no" to. A better method of measuring the similarity between these questions would be to compare the number of overlapping "yes" responses out of the responses total. Assessment of bivariate association with odds ratios was more accurate.

Sleeping Trouble, Gender, and Health Risk Behaviors

Gender differences were evaluated between adolescents who complained about sleep and tiredness and adolescents who did not. More than a third of the adolescents visiting Eastside Clinics in 2011 reported trouble with sleepiness or feeling tired when they completed an Adolescent Health History form at their first visit in the year. Females in the population were 2.5 times more likely than males to report problems with their sleep or being tired often. Furthermore, sadness and stress were shown to have greater association with sleeping trouble among females than they did among males. The following discussion describes why sleeping trouble among adolescents may be a concern worth an EFHC medical care provider's notice. It also describes past research on the relationship between sleeping trouble, gender, and emotions.

Sleeping troubles among adolescents should be a reasonable concern of physicians and nurses at EFHC. Sleeping troubles that develop into habitual inability to sleep well can result in increased healthcare burden and be associated with medical and psychiatric morbidities.[39] Sleeping trouble may also negatively impact control of behavior, emotions, and attention.[6] Loss of control of behavior can lead to behavior changes that put health at risk. In 2005, O'Brien and Mindell examined sleep and risk behaviors among four high schools in Philadelphia; they reported association between sleep problems and tobacco use, alcohol use, marijuana use, safety behaviors, and sexual behaviors.[26] Sleeping troubles are just not a problem that goes away overnight; they can increase morbidities and likeliness to participate in other health risk behaviors.

There is substantial evidence that emotional risk and sleeping trouble are interrelated. Emotional changes related to sleeping trouble may include exacerbation of several mental disorders, including major depression.[1, 6] Robert E. Roberts et al. studied psychiatric disorder among adolescents using managed care; and performed a literature review finding that every study cited an association between disturbed sleep and depression.[4, 24, 34] More recently, the Division of Adult and Community Health at the Center for Disease Control and Prevention used 2007 national Youth Risk Behavior Survey (YRBS) data from U.S. high school students (n=12,154) to analyze relationships between hours of sleep and health risk behaviors in US adolescent students. The division reported that for all ten risk-behaviors investigated, subjects with sleep problems had higher odds of engaging in the risk behavior than subjects without sleep problems.[25] This trend occurred among Eastside Family Health Clinic adolescents as well. There is

substantial evidence that adolescent's problems with sleep or being tired are associated with a decrease in wellness and an increase in other health risk behaviors.

Finding that the females visiting Eastside Family Health Center reported having trouble with sleeping and tiredness more than males was not unique to the center. This relationship was also found in most past research on gender difference and complaints about sleeping trouble. For example, "A large body of evidence shows that women complain more frequently of insomnia than do men [Hohagen et al, 1993; Ohayon, 1996; Partinen and Hublin, 2000]."[38] Thesis results supported past research because sleeping trouble was associated with psychiatric morbidities among the Eastside Neighborhood Clinic population in 2011. Furthermore, thesis results indicated that psychiatric troubles (feeling stress, being unhappy about weight, being unhappy about eating, not having fun, feeling sad, feeling down, or feeling like there is nothing to look forward to) were higher in females than in males. As stated in the introducing chapter of this thesis, research using the GAPS tool among Detroit school-based health centers found that female gender was strongly related to self-reported depressive symptoms.[17] More recent research supports the conclusion that psychiatric morbidities (or "emotional risk" as categorized from the ACHH) differ according to gender.[18, 32] The CDC's study of sleeping trouble using YRBS data adjusted for both sex and age but did not investigate whether sex was independently associated with sleeping trouble.

Gender differences in sleeping trouble may be related to gender differences in depression, but it is not known whether the primary cause of sleeping trouble is gender or depression. Dr. Ulrich Voderholzer et al. questioned if the apparent difference in sleeping trouble between genders was not better explained by gender difference in other

psychiatric troubles.[38] He and co-authors investigated whether or not gender was an independent risk factor for insomnia.[38] Voderholzer et al. compared age and sex-matched patients with primary insomnia and healthy patients and found no significant differences between genders in sleep period time. Ironically, healthy females had higher REM latency and slightly better subjective sleep quality than males.[38] Furthermore, female insomniacs were more accurate than males in estimating their sleep duration.[38] Therefore, females may be more aware of their sleep and more likely to pay attention to their sleeping trouble or tiredness, and more likely to report it on a clinical screening-tool. Voderholzer also found that a group of depressed patients showed gender differences in sleep habits.[38] However, research on the relationships between sleep, gender, and depression by Jennifer Robert, et al. suggests findings in the opposite direction. The authors found that depressed adolescent boys had greater sleep disturbance (measured slow-wave sleep and rapid-eye-movement) than depressed adolescent girls.[33] Research on whether gender or depression is the primary cause of depression has not been conclusive.

Research on the associations between sleeping trouble, gender, and emotional risk among adolescents has been sparse.[39] Further study of adolescents is necessary to define whether gender differences in the frequency of reporting of sleeping trouble are affected predominantly by gender differences in other emotional troubles. Further research must be done to distinguish whether gender is independently associated with sleeping among adolescents. Mounting evidence that sadness and unhappiness is more prevalent among females suggests that methods should be developed to reduce the sadness and unhappiness among females. When associations between adolescent's health risk behaviors and depression are found, efforts should be made to reduce those health risk

behaviors. Reducing depression among females may reduce the prevalence of sleeping trouble among females, and vice versa. Evidence suggests that genetic gender difference should not be blamed directly for sleeping trouble.

Comparing EFHC Data to Healthy Kids Colorado 2011 Survey Data:

Comparing Eastside Family Health Clinic (EFHC) adolescent patients to adolescents sampled throughout Colorado by using Healthy Kids Colorado survey data[5] (Table 9) is difficult because difference in primary language might indicate a different distribution in derived race between the samples. Nevertheless, it appears that high-school aged adolescents at EFHC are less likely to exercise regularly, receive grades of A's and B's, smoke cigarettes or marijuana, drink alcohol, have had sex, or use condoms when having sex than other high school students throughout Colorado state. EFHC high-school patients may be more likely to experience a fight or assault. The proportion of adolescent patients feeling sad or thinking of suicide is similar in proportion to the adolescents with those feelings throughout Colorado. The Healthy Kids Colorado survey more accurately defined the meaning of "sweet drink" than the ACHH screening-tool but did not inquire about dangerous methods used to change weight. Differences in population portions with regard to alcohol drinking likely occur due to differences in measuring behavior involving alcohol use. The Healthy Kids Colorado survey will remain a valuable comparison test of ACHH data in future research.

Table 9. Comparing results from the Health Kids Colorado Survey[5] and the Adolescent Confidential Health History, both in 2011. Equivalent to comparing Eastside Family Health Clinic adolescent patients to adolescents sampled throughout Colorado.

	Healthy Kids Colorado Survey 2011. High-School students. (N=1523).	**Adolescent Confidential Health History, EFHC, 2011. 13 year olds deleted because they were unlikely to be in High School. (N=335).**
Q	Q87. What is the language you use most often at home?	Primary Language
A	English: 87.7%, Spanish: 8.8%, Another: 3.5%	English: 75%, Spanish: 25%, Another: 0%.
Q	Q79. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?	6. Do you exercise vigorously for at least 30 minutes 3 or more times a week?
A	75.7% were for at least 3 days of the past 7	60.4% exercise vigorously for at least 30 minutes 3 or more times a week.
Q	Q78. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite?	21. Do you drink at least one sweet drink each day? *Altered to Yes/No format*.
A	75.8% did have in past week	91.3% at least one sweet drink a day
Q	Q68. Which of the following are you trying to do about your weight?	23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?
A	57.7 % are trying to gain or lose weight	4.5% Yes.
Q	Q119. During the past 12 months, how would you describe your grades in school?	27. Do you usually get grades of A's or B's? *Altered to Yes/No format*.
A	75.6%: A's and B's	57.9%: A's and B's.
Q	Q31. During the past 30 days, on how many days did you smoke cigarettes?	31. Do you smoke occasionally /regularly? *Altered to Yes/No format*.
A	15.7% smoked at least once in the month	10.8%: Yes
Q	Q94. How old were you when you first began drinking alcohol regularly, that is, at least once or twice a month?	32. (Y/N) Do you drink alcohol 'regularly'?
A	27.2% did not say "I never drunk alcohol regularly."	3.3%: Yes
Q	Q46. During your life, how many times have you used marijuana?	35. Have you ever smoked pot? *Alterned to Yes/No format*
A	39.5% have tried, 11.6% have smoked it 100 or more times.	17.2%: Yes
Q	Q60. Have you ever had sexual intercourse?	39. Have you had sex before?
A	40.8% Yes	37.7%: Yes
Q	Q65. The last time you had sexual intercourse, did you or your partner use a condom?	40. Do you always use condoms during sex?
A	24.4% of those having had sex did not use a condom	17.7% of those having sex did not use a condom.

Q	Q21. Have you ever been physically forced to have sexual intercourse when you did not want to?	42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?
A	7% Yes	6.5%: Yes
Q	Q24. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?	48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?
A	21.9% Yes	23.2%: Yes
Q	Q25. During the past 12 months, did you ever seriously consider attempting suicide?	
A	14.8% Yes	
Q	Q27. During the past 12 months, how many times did you actually attempt suicide?	49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?
A	6.1% Yes	6.0%: Yes
Q	Q17. During the past 12 months, how many times were you in a physical fight?	51. Have you been in a fight or been assaulted in the past 3 months?
A	24.9% were in a fight 1 or more times in the past year, so 6.2% may have been in a fight in the past 3 months.	10.5%: Yes

Comparison of EFHC data in 2011 to the 2007 Youth Risk Behavior Survey (YRBS) Data of US High-School Students.[25]

Note similar directionality in each of the relationships.

Health Behavior Association with Sleeping Trouble in the YRBS[24] and at Eastside Family Health Center.			
YRBS variable	**YRBS age-adjusted OR**	**ACHH variable**	**ACHH crude OR, age-adjusted OR**
Current use of cigarettes	1.67 ([CI] 1.45-1.93)	Do you smoke occasionally or regularly?	3.5, 4.0
Current use of marijuana	1.52 ([CI] 1.31-1.76)	Have you ever smoked marijuana?	2.4, 2.7
Current use of alcohol	1.64 ([CI] 1.46-1.84)	Do you drink alcohol regularly?	4.6, 4.8
Current sexual activity	1.41 ([CI] 1.25-1.59)	Have you had sex before? "not sure"=no.	1.6, 1.9
Seriously considered attempting suicide	1.86 ([CI] 1.60-2.16)	Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	4.3, 4.3
Feeling sad or hopeless	1.62 ([CI] 1.43-1.84)	During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	8.6, 8.7
Physical Fighting	1.40 ([CI] 1.24-1.60)	Have you been in a fight or been assaulted in the past 3 months?	3.1, 3.1
Not being physically active at least 60 min ≥5 days in the past 7 days	1.16 ([CI] 1.04-1.29)	Do you NOT exercise vigorously for at least 30 minutes 3 or more times a week?	2.0, 2.0
Drinking soda/pop more than 1 time/ day	1.14 ([CI] 1.03-1.28)	(Y/N) Do you drink at least one sweet drink each day?	1.9, 1.9
Using the computer ≥3 h/day	1.58 ([CI] 1.38-1.80)	No Similar Question	N/A

CHAPTER 5: WHAT I HAVE LEARNED

The hypothesis and specific aims of this project approved in the COMIRB protocol were to first determine the rate of adolescent health screening-tool administration within Denver Health clinics in 2011 by counting screening-tools scanned and saved in the Denver Health electronic database among routine adolescent patient visits. Second, I would provide descriptive statistics of clinic visit patterns and screening tool administration through secondary data analysis. Third, I would produce descriptive analysis of screening-tool responses and generate hypotheses from significant relationships. Finally, I would test the hypothesis that there is statistically significant variation in reported health risk by demographic factors such as derived race/ethnicity, primary language, and insurance status. I have achieved these objectives; the only information untested was the relationship of health risk to insurance status.

The relationship between health risk and insurance status was not tested due to time constraints. School-based health center data was also not thoroughly analyzed due to time constraints; entering data from 3828 patient responses to more than 50 questions would not have been possible within the time allotted unless I had several assistants. Most of the data entry for patients at Eastside Family Health Center was completed and the proportion of adolescents completing Adolescent Confidential Health History screening-tools at Eastside Family Health Center was known by September 2012. Derived race/ethnicity data and insurance data were not received until March 2013. This thesis provides evidence that the Adolescent Confidential Health History screening-tool can be used to form hypothesis about adolescent health risk behaviors.

Other than time-constraints, the greatest challenge to my thesis was being provided a dataset and expected to independently generated hypotheses through inductive analysis. Inductive analysis required more flexibility than required by deductive analysis. Inductive analysis made selection of appropriate methodology difficult; the methodology was reactionary to results. For this reason, a wider variety of methods than typical were used to analyze the data. In this thesis, different methods are described even though they were not appropriate. The goal of describing methods that did not produce accurate results was to provide evidence of attempting different methods, learning which methods were not appropriate, and understanding why those methods were inappropriate. Inappropriate methods (guiding logistic regression with p-values) and insignificant results (similarity between question pairs for individual patients) are valuable to public health and research; mistakes can be learned from as much as successes. Furthermore, there should not be selective bias in academia towards desirable results.

The Adolescent Confidential Health History should continue to be used at Denver Health clinics. The tool is already valuable for screening health risk behaviors and directing counseling in the clinic. Improving the ACHH process of use by ensuring that the form is completed and scanned by each adolescent during a Well-Child Visit at Denver Health clinics, and standardizing its use across clinics, will enormously increase its potential as a research tool. The number of adolescents completing Well-Child Visits is high enough to represent adolescent patients in Denver County. Denver Health should continue to use the ACHH as a research tool to understand Denver County adolescent patient health behavior.

Research has shown the adolescent health behaviors are associated with one another. Therefore, reducing one health risk behavior's occurrence among adolescents could serve to reduce occurrence of other health risk behaviors. Understanding which health risk behavior has the greatest impact on other health risk behaviors is invaluable. If such a behavior is identified, targeting efforts towards modifying that one behavior could efficiently reduce other health risk behaviors. Efficient targeting more productively uses valuable healthcare resources in the community to improve adolescent preventive health. The health of individuals affects one another and the environment and adolescents hopefully become adults and live for many more healthy years. Improved preventive health for adolescents can prevent future morbidities and mortalities among Denver County citizens.

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Appendix 1.

Name, MR#, Pat#, DOB

DENVER HEALTH

ADOLESCENT CONFIDENTIAL HEALTH HISTORY

Date:_____/_____/_____ Clinic:_____
MM DD YY

What is the best phone number to call if we need to reach you? _____

Primary Language: ☐ English ☐ Spanish ☐ Other _____ ID X 2 _____ (Staff Initials)

Do you wish to have an interpreter? ☐ Yes ☐ No ☐ N/A Interpreter:_____ (Name)

Have you had any of the following concerns or problems in the past month?

☐ **Allergies**	☐ **Neck/ back pain**	☐ **Hearing problem/ earaches**
☐ **Eyes/ vision**	☐ **Periods/ cramps**	☐ **Chest pain/ heart racing**
☐ **Headaches**	☐ **Skin/ rash/ acne**	☐ **Asthma/ exercise-related coughing**
☐ **Height/ weight**	☐ **Breasts**	☐ **Sexually transmitted infections/ HIV/ AIDS**
☐ **Stomach pain**	☐ **Muscle/ joint pain**	☐ **Other:** _____

1. Have you ever been hospitalized or had surgery? ☐ No ☐ Yes
2. Are you taking any prescription or over the counter medications or dietary supplements? ☐ No ☐ Yes
3. Have you been to the dentist in the past year? ☐ Yes ☐ No
4. In the past year, have you stayed overnight in a homeless shelter, jail or detention center? ☐ No ☐ Yes
5. In the past year, have you or your family member traveled to Mexico or other countries? ☐ No ☐ Yes
6. Do you exercise vigorously for at least 30 minutes 3 or more times a week? ☐ Yes ☐ No
7. During exercise have you ever been dizzy? ☐ No ☐ Yes ..... passed out? ☐ No ☐ Yes
8. Have you ever had a concussion or been unconscious? ☐ No ☐ Yes
9. Do you have trouble breathing or do you cough during or after exercise? ☐ No ☐ Yes
10. Have you ever had chest pain during or after exercise? ☐ No ☐ Yes
11. Have you ever had racing of your heart or skipped heartbeats? ☐ No ☐ Yes
12. Has anyone in your family died before age 55? ☐ No ☐ Yes
13. Are all 4 of your grandparents still alive? ☐ Yes ☐ No
14. Do you wear a helmet when you rollerblade, skateboard, ride a bike or motorcycle? ☐ Yes ☐ No ☐ Don't do
15. Do you wear a seatbelt when you ride in or drive a car, van or truck? ☐ Yes ☐ No
16. Who do you live with? _____
17. Have you ever lived with foster parents, in a group home or in a shelter? ☐ No ☐ Yes
18. Do you get along reasonably well with your family? ☐ Yes ☐ No
19. Do you have at least one adult you can talk to about your feelings? ☐ Yes ☐ No
20. Are you happy with your eating habits and your weight? ☐ Yes ☐ No
21. How many sweet drinks (Gatorade, pop, juice, Kool-aid) do you drink each day? ☐ none ☐ 1-2 ☐ 3 or more
22. How many times a week do you eat fast food? ☐ never ☐ 1-2 times ☐ 3 or more times
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret? ☐ No ☐ Yes

1233

OVER

24. Have you or your friends ever been in trouble with the law? ☐ No ☐ Yes
25. Are gangs a part of your life now or in the past? ☐ No ☐ Yes
26. Have you ever dropped out of school or been suspended in the past year? ☐ No ☐ Yes
27. What grades do you usually get? ☐ A's or B's ☐ C's or D's ☐ F's ☐ Not in school (skip to question 29)
28. How many days were you absent from school last month? _____
29. Do you work? If yes, what do you do? _____ ☐ No ☐ Yes
30. What are your future plans or career goals? _____
31. Do you smoke cigarettes, cigars or use chewing tobacco? ☐ Never ☐ Occasionally ☐ Regularly
32. How often do you drink alcohol? ☐ Never ☐ Once a month ☐ Weekends ☐ Almost every day
33. Have you ever used alcohol and: ☐ Gotten drunk ☐ Been in a fight ☐ Driven ☐ Regretted something? ☐ No ☐ Yes
34. Does anyone in your family have a problem with alcohol or drug abuse? ☐ No ☐ Yes
35. Do you smoke marijuana? ☐ Never ☐ Occasionally ☐ Regularly
36. Have you tried other drugs? ☐ No ☐ Yes
37. Do you think you may be gay, lesbian or bisexual? ☐ No ☐ Yes ☐ Not sure
38. Do you have a current boyfriend/girlfriend? If yes, age _____ ☐ No ☐ Yes
39. Have you ever had sexual intercourse? If yes, how old were you the first time? _____ ☐ No ☐ Not sure ☐ Yes
40. Do you and your partner(s) *always* use condoms when you have sex? ☐ Not active ☐ Yes ☐ No
41. If you are sexually active are you (or your partner) using any birth control besides condoms? ☐ Yes ☐ No
42. Have you ever been raped (includes "date-rape") or pressured to have sex when you didn't want to? ☐ No ☐ Yes
43. Have you/your partner ever been pregnant? ☐ No ☐ Not sure ☐ Yes
44. Have you ever been treated for a sexually transmitted infection? ☐ No ☐ Not sure ☐ Yes
45. During the past month, have you been under a lot of stress? ☐ No ☐ Yes
46. During the past 2 weeks, have you had fun? ☐ Yes ☐ No
47. Do you have problems with your sleep or being tired often? ☐ No ☐ Yes
48. During the past month, have you often felt sad, down or as though you had nothing to look forward to? ☐ No ☐ Yes
49. Have you ever seriously thought about killing yourself, threatened or actually attempted suicide? ☐ No ☐ Yes
50. Have you ever been physically, sexually or emotionally abused? ☐ No ☐ Yes
51. Have you been in a fight or been assaulted in the past 3 months? ☐ No ☐ Yes
52. Do you ever need to carry a weapon? ☐ No ☐ Yes
53. Have you had a close personal friend die of gang-related violence this past year? ☐ No ☐ Yes

Thank you for taking the time to answer these questions.

_____
Patient Signature Date/Time

Appendix 2:

1.1 Adjusted Variables and New Measurements

1) In a new variable for language, responses were English or Spanish while others were counted as missing.
2) The response 'Na' and "N/A" for needing an interpreter were recorded as not needing an interpreter.
3) If the response to "Do you wear a helmet when you rollerblade, skateboard, ride a bike, or motorcycle" was "don't do", the subject was recorded in a new variable as not riding a bike, motorcycling, skateboarding, or rollerblading. All those who did not respond with "don't do" were recognized as bike riders. In a second variable with a subset including only the active subjects, those who reported wearing helmets were counted as helmet wearers and those who did not wear a helmet were treated as non-helmet wearers. *Question 14*.
4) Subjects who did not drink a sweet drink each day were counted as non-sweet drink subjects, while subjects who drank at least one sweet drink each day were counted as sweet drink imbibers. *Question 21*.
5) Subjects who ate fast food 1-2 times or 3 or more times per week were assigned as fast food eaters, while those who reported never eating fast food were not recorded as fast food eaters. *Question 22*.
6) A subject who usually got A's or B's was considered having good grades while a subject reporting Cs or lower was not. *Question 27*.
7) Variables with open ended answers: "*Question 16: Who do you live with?" "Question 29: If yes [Do you work?], what do you do?" "Question 30: What are your future plans or career goals?"* were excluded from the study.

8) Subjects who never smoked tobacco were counted as such, while those who smoked occasionally or regularly were assigned as tobacco smokers. *Question 31.*

9) Subject reporting drinking alcohol were first ranked from 0 to 3, with 3 signifying the highest level of use. Subjects who drank alcohol never or once a month were ranked as '0' level alcohol users and once a month/weekends was ranked level 1-alcohol users. Subjects who drank on weekends were ranked as level 2 alcohol users while subjects who drank considered low alcohol use while those drinking almost every day ranked as level 3 high alcohol users. In the final dichotomous variable, drinkers at levels 0 and 1 were recorded as low alcohol users and drinkers at levels 2 and 3 were described as high alcohol users. *Question 32.*

10) "Question 33: Have you ever used alcohol and…?" had multiple overlapping response choices: *"Gotten Drunk, Been in a Fight, Driven, Regretted something? No. Yes."* Responses to question 33 were not included in analysis.

11) A subject who reported using marijuana occasionally or regularly was a user, while those who had used it once, tried it, or never smoked it were considered not to be users of marijuana. *Question 35.*

12) Subjects unsure of if they were gay, lesbian, or bisexual were excluded from the count. *Question 37.*

13) If the subject reported they were unsure if they had sex or not, the subject was counted as not having sex. *Question 39.*

14) When calculating the percentage of condom users and the percent of those using any birth control besides condoms, subjects who reported sexual activity were not included in the denominator. *Question 40, Question 41.*

15) Subjects unsure if they or their partner were pregnant were excluded from the count. *Question 43.*

16) Subjects that were unsure if they had been tested for a sexually transmitted infection were excluded from the count. *Question 44*.

1.2 Switching Response Direction

Fourteen questions were adjusted to make an affirmative response the implied a risk behavior. For example, the question, "Have you been to the dentist in the past year?" was switched to "Have you not been to the dentist in the past year?" Other altered counts included questions about vigorous exercise, whether all four grandparents were alive, biking, wearing helmets, wearing seatbelts, getting along with family, having an adult to talk to, being happy about eating habits or weight, getting good grades, working, having safe sex, and having fun.

New Question 3: "Have you not been to the dentist in the past year?"

New Question 6: "Do you not exercise vigorously for at least 3 or more times a week?"

New Question 13: "Are all 4 of your grandparents not still alive?"

New Question 14a: "Do you not rollerblade, skateboard, ride a bike or motorcycle?

New Question 14b: "Do you wear a helmet when you rollerblade, skateboard, ride a bike or motorcycle?"

New Question 15: "Do you not wear a seatbelt when you ride in or drive a car, van, or truck?"

New Question 18: "Do you not get along reasonably well with your family?"

New Question 19: "Do you not have at least one adult you can talk to about your feelings?"

New Question 20: "Are you not happy with your eating habits and your weight?"

New Question 27: "Do you not usually get grades of A's or B's"?

New Question 29: "Do you not work?"

New Question 40: "Do you not always use condoms during sex?"

New Question 41: "Do you not use birth control besides condoms?"

New Question 46: “During the past 2 weeks, have you not had fun?”

1.3 Deleted Outliers in the Data:

1. The report of 1012 days absent from school as was deleted.

2. The report of a boyfriend or girlfriend with an age of zero was deleted.

1.4 Sum of Risk Behaviors by Category and Total:

“Emotional Score” = Being under a lot of stress (Yes=1, No=0) + not having fun in the last two weeks (Yes=1, No=0) + often feeling sad in the past month + seriously thinking of suicide (Yes=1, No=0).

“Violence Score” = Having being abused (Yes=1, No=0) + been in a fight or assaulted in the past 3 months (Yes=1, No=0) + need to carry a weapon (Yes=1, No=0) + having a close personal friend die of gang-related violence in the past three months (Yes=1, No=0) + had gangs a part of life currently or in the past (Yes=1, No=0).

“Risky Sex Score”= Not using condoms when having sex (Yes=1, No=0) + not using birth control besides condoms when having sex (Yes=1, No=0) + having themselves or a partner be pregnant (Yes=1, No=0) + having been treated for a sexually transmitted infection.

“Drug Score” = Whether or not the patient had tried other (not tobacco, marijuana, alcohol, prescription, or over-the-counter) drugs (Yes=1, No=0) + smoked cigarettes occasionally/regularly or not (0, 1, 2, 3) + drank alcohol (0, 1, 2, 3) + had smoked marijuana (Yes=1, No=0).

“School Trouble Score” = (A’s or B’s = 0, C’s or D’s =1, F’s=2) + dropped out or been suspended (Yes=1, No=0).

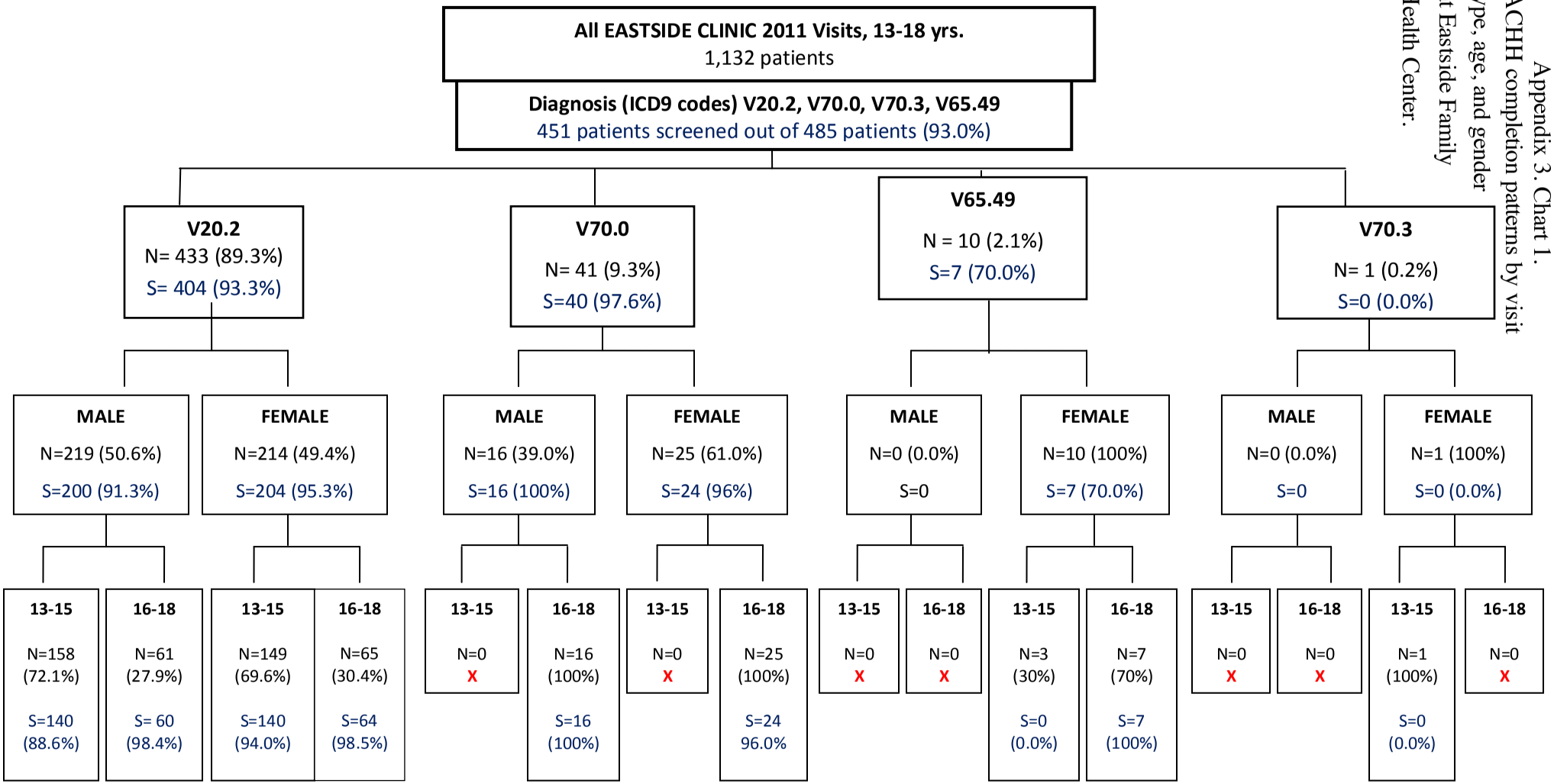
“Athletic Risk Score” = Not exercising for at least 30 minutes or more three times a week (Yes=1, No=0) + being dizzy during exercise (Yes=1, No=0) + passing out during exercise

(Yes=1, No=0) + having had a concussion or been unconscious (Yes=1, No=0) + trouble breathing or coughing during or after exercise (Yes=1, No=0) + having chest pain during or after exercise (Yes=1, No=0) + having racing of heart or skipped heart beats (Yes=1, No=0).

"Total Risk Score" = All 51 dichotomous questions (Yes=1, No=0) summed.

Risk category scores were not created for eating/weight health, family and relationship health, or medical history question categories.

Appendix 3. Chart 1. ACHH completion patterns by visit type, age, and gender at Eastside Family Health Center.



"**N**"= Number of patients who visited the clinic in 2011. The first visit by the patient (medical record number) in the year for the selected diagnosis.

"S"= Number of screened patients completing a full Adolescent Confidential Health History form. The percent is of the "N" patients in the same box.

ACHH= Adolescent Confidential Health History; Form 1233
V20.2 = Routine infant or child health check.
V70.0 = Routine general medical examination at a health care facility.
V70.3 = Other medical examination for administrative purposes.
V65.49 = Other specified counseling

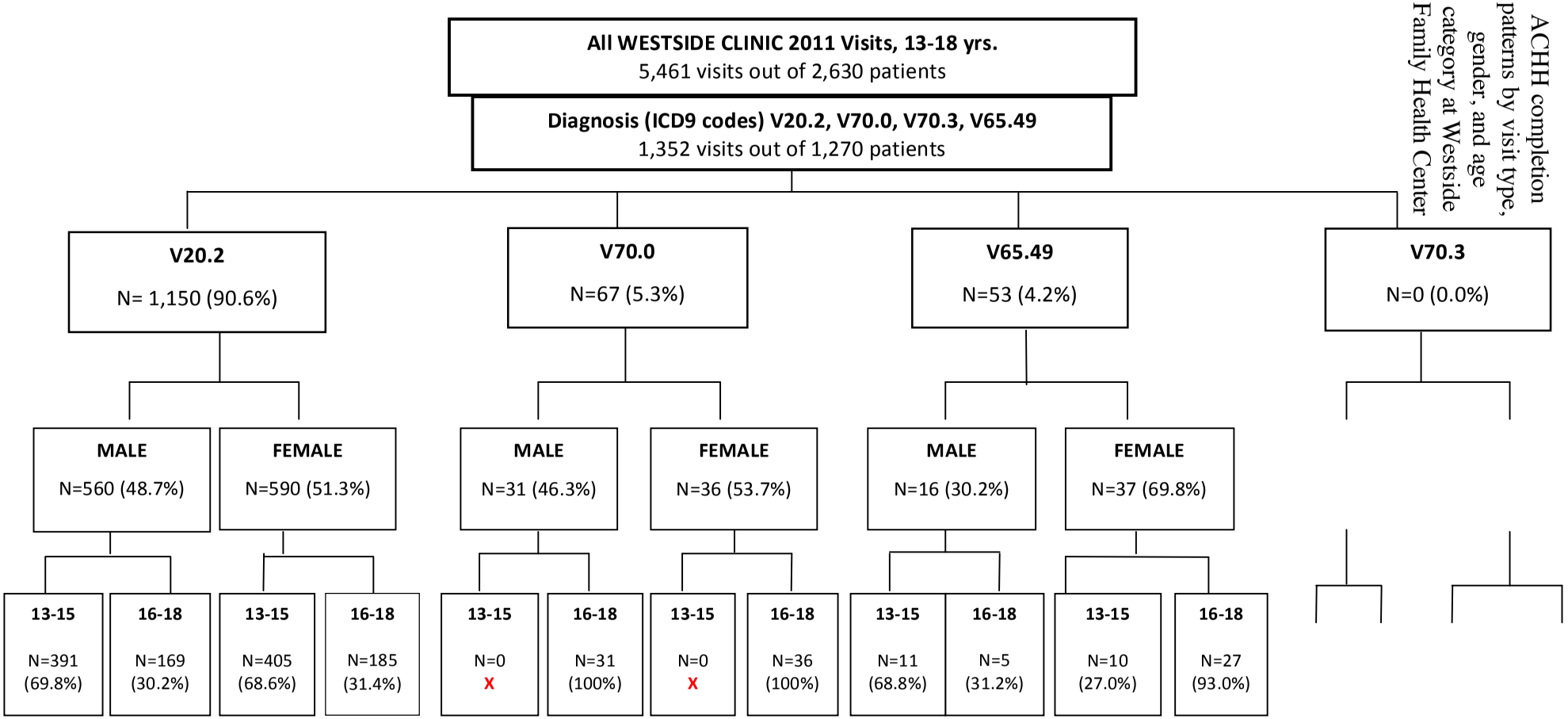
METHODS

- **Only the first visit of the patient in the day or year was considered for the "N" value.**
- **Repeat patient identification numbers were deleted. The V20.2 diagnosis was given precedence.**
- **Foster Care patients were excluded.**
- **11-12 year-olds were excluded.**

William Knechtle

Appendix 3. Chart 2.

ACHH completion patterns by visit type, gender, and age category at Westside Family Health Center



*Adolescent Confidential Health History Forms (ACHH) from Westside Clinic have not yet been located in the EDM after searching by specific diagnostic codes.

"**N**"= Number of patients who visited the clinic in 2011 = Number of first visits by patients (medical record numbers) in the year.

ACHH= Adolescent Confidential Health History; Form 1233. Not Found in the EDM yet.
V20.2 = Routine infant or child health check.
V70.0 = Routine general medical examination at a health care facility.
V70.3 = Other medical examination for administrative purposes.
V65.49 = Other specified counseling

METHODS

- **Only the first visit of the patient in the day or year was considered for the "N" value.**
- **Repeat patient identification numbers were deleted. The V20.2 diagnosis was given precedence.**
- **Foster Care patients were excluded.**
- **11-12 year-olds were excluded.**

Appendix 3, Chart 3.
ACHH completion patterns by type of visit, gender, and age group at school-based health centers.

All SCHOOL-BASED HEALTH CLINIC 2011 1st Visits, 13-18 yrs.
21,747 visits out of 6,637 patients

1st Visit Diagnosis (ICD9 codes) V20.2, V70.0, V70.3, V65.49
4,590 visits out of 3,828 patients
1581 patients checked for questionnaires (41.3%). 922 completed (58.3%)

V20.2	V70.0	V65.49	V70.3
N= 1218 (31.82%) n=500 (41.1%) S=355 (71.0%)	N=58 (1.51%) n=36 (62.1%) S=21 (58.3%)	N=1154 (30.15%) n=451 (39.1%) S=205 (45.5%)	N=1398 (36.52%) n=595 (42.6%) S=341 (57.3%)
MALE N=622 (51.1%) n= 265 S= 192 (72.5%)	**FEMALE** N=596 (48.9%) n=235 S=163 (69.4%)	**MALE** N= 32 (55.2%) n=17 S=13 (76.5%)	**FEMALE** N= 26 (54.8%) n=19 S=8 (42.1%)	**MALE** N=491 (42.5%) n=226 S= 121 (53.5%)	**FEMALE** N=663 (57.5%) n=225 S= 84 (37.3%)	**MALE** N=778 (55.7%) n=379 S=213 (56.2%)	**FEMALE** N=620 (44.3%) n=216 S=128 (37.5%)
13-15 N=464 (74.6%) n=187 S=123 (65.8%)	**16-18** N=158 (25.4%) n=78 S=69 (88.5%)	**13-15** N=407 (68.3%) n=159 S=100 (62.9%)	**16-18** N=189 (31.7%) n=76 S=63 (82.9%)	**13-15** N=1 (3.1%) n=1 S=1 (100%)	**16-18** N=31 (96.9%) n=16 S=12 (75.0%)	**13-15** N=0 X	**16-18** N=26 (100%) n=19 S=8 (42.1%)	**13-15** N=257 (52.3%) n=114 S=52 (45.6%)	**16-18** N=234 (47.7%) n=112 S=69 (61.6%)	**13-15** N=332 (50.1%) n=128 S=46 (35.9%)	**16-18** N=331 (49.9%) n=97 S=38 (39.2%)	**13-15** N=385 (49.5%) n=180 S=95 (52.8%)	**16-18** N=393 (50.5%) n=199 S=118 (59.3%)	**13-15** N=289 (46.6%) n=107 S=61 (57.0%)	**16-18** N=331 (53.4%) n=109 S=67 (61.5%)

"**N**"= Number of patients who visited the clinic in 2011 = Number of first visits by patient (medical record number) in the year.
"n"= number of patients sampled.
"S" = number of questionnaires completed among patients sampled.

383 of 695 females completed questionnaires (55.1%).
539 of 887 males completed questionnaires (60.8%).
Of the 922 completed questionnaires, 41.5% were from females and 58.5% were from males.

ACHH= Adolescent Confidential Health History; Form 1233. Not Found in the EDM yet.
V20.2 = Routine infant or child health check.
V70.0 = Routine general medical examination at a health care facility.
V70.3 = Other medical examination for administrative purposes.
V65.49 = Other specified counseling.

METHODS

- Only the first visit of the patient in the day or year was considered for the "N" value.
- Repeat patient identification numbers were deleted. The V20.2 diagnosis was given precedence.
- Foster Care patients were excluded.
- 11-12 year-olds were excluded.
- Each of the 356 'V20.2' and 'V70.0' patients was searched for an ACHH form in the EDM. 20% of 'V65.49' and 'V70.3' patients were sampled.

SCHOOL-BASED HEALTH CLINIC 2011 First Visits, 13-18 yrs. with Diagnosis: Routine infant or child health check and general examinations (V20.2 & V70.0), Other medical examinations for administrative purposes (V70.3), and other specified counseling (V65.49). (N=3,828).					Rate of administration of the Adolescent Confidential Health History Questionnaire per total visits stratified by sex and age group (13-15) and (16-18)	
SCHOOLS (12 schools, N=3828)	TOTAL	Age Group	ROW TOTAL (%)	Total %	% of Sampled Visits with ACHHs. N=1581. S=922 (58.3%) Males: N=887 S=383 (55.1%) Females: N=695 S=539 (60.8%)	% of ACHHs by Age Group among each Sex
SBJ: JFK High School	**362**			9.5%	**N=147. S=134 (91.2%)**	
Males	189 (52.2%)	**13-15**	77 (40.7%)	21.3%	N=80. S=71 (88.8%)	31 (43.7%)
		16-18	112 (59.3%)	30.9%		40 (56.3%)
Females	173 (47.8%)	**13-15**	86 (49.7%)	23.8%	N=67. S=63 (94.0%)	33 (52.4%)
		16-18	87 (50.3%)	24.0%		30 (47.6%)
SBK: Kepner	**193**			5.0%	**N=84. S=33 (39.3%)**	
Males	99 (51.3%)	**13-15**	99 (100%)	51.3%	N=48. S=20 (41.7%)	20 (100%)
		16-18	0 (0.0%)	0.0%		0 (0.0%)
Females	94 (48.7%)	**13-15**	93 (98.9%)	48.2%	N=36. S=13 (36.1%)	13 (100%)
		16-18	1 (1.1%)	51.8%		0 (0.0%)
SBL: Lincoln High School	**525**			13.7%	**N=222. S=74 (33.3%)**	
Males	261 (49.7%)	**13-15**	104 (39.85%)	19.8%	N=124. S=43 (34.7%)	19 (44.2%)
		16-18	157 (60.15%)	29.9%		24 (55.8%)
Females	264 (50.3%)	**13-15**	117 (44.3%)	22.3%	N=98. S=31 (31.6%)	18 (58.1%)
		16-18	147 (55.7%)	28.0%		13 (41.9%)
SBM: MLK Middle School	**301**			7.9%	**N=125. S=112 (89.6%)**	
Males	140 (46.5%)	**13-15**	99 (70.7%)	32.9%	N=61. S=59 (96.7%)	44 (74.6%)
		16-18	41 (29.3%)	13.6%		15 (25.4%)
Females	161 (53.5%)	**13-15**	111 (68.9%)	36.9%	N=64. S=53 (82.8%)	33 (62.3%)
		16-18	50 (31.1%)	16.6%		20 (37.7%)
SBN: North High School	**353**			9.2%	**N=147 . S=121 (82.3%)**	
Males	193 (54.7%)	**13-15**	102 (52.85%)	28.9%	N=99. S=74 (83.1%)	34 (46.0%)
		16-18	91 (47.15%)	25.8%		40 (54.0%)
Females	160 (45.3%)	**13-15**	78 (48.75%)	22.1%	N=58. S=47 (81.0%)	19 (40.4%)
		16-18	82 (51.25%)	23.2%		28 (59.6%)
SBR: Rachel Noel Middle School	**204**			5.3%	**N=84. S=0 (0.0%)**	
Males	101 (49.5%)	**13-15**	101 (100%)	49.5%	N=45. S=0 (0.0%)	0
		16-18	0	0.0%		0
Females	103 (50.5%)	**13-15**	103 (100%)	50.5%	N=39. S=0 (0.0%)	0
		16-18	0	0.0%		0

SCHOOL-BASED HEALTH CLINIC 2011 Visits, 13-18 yrs. with Diagnosis: Routine infant or child health check and general examinations (V20.2 & V70.0), Other medical examinations for administrative purposes (V70.3), and other specified counseling (V65.49). (N=3,828).					Rate of administration of the Adolescent Confidential Health History Questionnaire per total visits stratified by sex and age group (13-15) and (16-18)	
SCHOOL	**TOTAL**	**Age Group**	**ROW TOTAL (%)**	**Total %**	% of Sampled Visits with ACHHs	% with ACHHs categorized by Age Group among each Sex
SBW: West High School	**327**			8.5%	**N=139. S=129 (92.8%)**	
Males	155 (47.4%)	**13-15**	70 (45.2%)	21.4%	N=73. S=67 (91.8%)	21 (31.3%)
		16-18	85 (54.8%)	26.0%		46 (68.7%)
Females	172 (52.6%)	**13-15**	71 (41.3%)	21.7%	N=66. S=62 (93.7%)	19 (30.6%)
		16-18	101 (58.7%)	30.9%		43 (69.4%)
SKU: Kunsmiller	**131**			3.4%	**N=54. S=20 (37.0%)**	
Males	72 (55.0%)	**13-15**	72 (100%)	55.0%	N=27. S=10 (37.0%)	10 (100%)
		16-18	0 (0.0%)	0.0%		0 (0.0%)
Females	59 (45.0%)	**13-15**	59 (100%)	45.0%	N=27. S=10 (37.0%)	10 (100%)
		16-18	0	0.0%		0 (0.0%)
SLA: Lake Middle School	**173**			4.5%	**N=71. S=59 (83.1%)**	
Males	98 (56.6%)	**13-15**	98 (100%)	56.6%	N=38. S=33 (86.8%)	33 (100%)
		16-18	0 (0.0%)	0.0%		0 (0.0%)
Females	75 (43.4%)	**13-15**	75 (100%)	43.4%	N=33. S=26 (78.8%)	33 (100%)
		16-18	0 (0.0%	0.0%		0 (0.0%)
SMA: Manual High School	**227**			5.9%	**N=93. S=40 (43.0%)**	
Males	121 (53.3%)	**13-15**	62 (51.2%)	27.3%	N=47. S=23 (48.9%)	7 (30.4%)
		16-18	59 (48.8%)	26.0%		16 (69.6%)
Females	106 (46.7%)	**13-15**	53 (50.0%)	23.3%	N=46. S=17 (37.0%)	8 (47.1%)
		16-18	53 (50.0%)	23.3%		9 (52.9%)
SMO: Montbello High	**508**			13.3%	**N=205. S=172 (83.9%)**	
Males	213 (41.9%)	**13-15**	86 (40.4%)	16.9%	N=131. S=126 (96.2%)	51 (40.5%)
		16-18	127 (59.6%)	25.0%		75 (59.5%)
Females	295 (58.1%)	**13-15**	100 (33.9%)	19.7%	N=74. S=46 (62.2%)	24 (52.2%)
		16-18	195 (66.1%)	38.4%		22 (47.8%)
SBS: South High School	**524**			13.7%	**N=211. S=28 (13.3%)**	
Males	281 (53.6%)	**13-15**	137 (48.75%)	26.1%	N=124. S=13 (10.5%)	1 (7.7%)
		16-18	144 (51.25%)	27.5%		12 (92.3%)
Females	243 (46.4%)	**13-15**	82 (33.7%)	15.6%	N=87. S=15 (17.2%)	9 (60.0%)
		16-18	161 (66.3%)	30.7%		6 (40.0%)

	Rate of administration of the Adolescent Confidential Health History Questionnaire per total V20.2 visits at the school, stratified by sex and age group (13-15) and (16-18)		Rate of administration of the Adolescent Confidential Health History Questionnaire per total V65.49 visits at the school, statified by sex and age group (13-15) and (16-18)	
School	**% completion among sampled V20.2 visits, also stratified by Sex**	**% completion among V20.2 visits categorized by Age Group among each Sex**	**% completion among sampled V65.49 visits, also stratified by Sex**	**% completion among V65.49 visits stratified by age group among each sex**
SBJ	**N=42. n=17. S=16 (94.1%)**		**N=82. n=34. S=23 (67.7%)**	
	N=21. n=9. S=9 (100%)	N=14. n=5. S=5 (100%)	N=48. n=21. S=13 (61.9%)	N=12. n=9. S=7 (77.8%)
		N=7. n=4. S=4 (100%)		N=36. n=12. S=6 (50.0%)
	N=21. n=8. S=7 (97.5%)	N=13. n=3. S=3 (100%)	N=34. n=13. S=10 (76.9%)	N=9. n=4. S=4 (100%)
		N=8. n=5. S=4 (80%)		N=25. n=9. S=6 (66.7%)
SBK	**N=10. n=4. S=3 (75.0%)**		**N=129. n=52. S=7 (13.5%)**	
	N=3. n=1. S=1 (100%)	N=3. n=1. S=1 (100%)	N=65. n=27. S=4 (14.8%)	N=65. n=27. S=4 (14.8%)
		N=0		N=0
	N=7. n=3. S=2 (66.7%)	N=7. n=3. S=2 (66.7%)	N=64. n=25. S=3 (12.0%)	N=63. n=24. S=3 (12.5%)
		N=0		N=1. n=1. S=1 (100%)
SBL	**N=1. n=1. S=0 (0.0%)**		**N=155. n=67. S=22 (32.8%)**	
	N=0	N=0	N=85. n=40. S=11 (27.5%)	N=31. n=11. S=6 (54.6%)
		N=0		N=54. n=29. S=5 (17.2%)
	N=1. n=1. S=1 (100%)	N=0	N=70. n=27. S=11 (40.7%)	N=34. n=12. S=7 (58.3%)
		N=1. n=1. S=1 (100%)		N=36. n=15. S=4 (26.7%)
SBM	**N=224. n=92. S=88 (95.7%)**		**N=76. n=32. S=23 (71.9%)**	
	N=108. n=44. S=43 (97.7%)	N=81. n=37. S=36 (97.3%)	N=32. n=17. S=16 (94.1%)	N=18. n=9. S=8 (88.9%)
		N=27. n=7. S=7 (100%)		N=14. n=8. S=8 (100%)
	N=116. n=48. S=45 (93.8%)	N=84. n=35. S=32 (91.4%)	N=44. n=15. S=7 (46.7%)	N=27. n=9. S=1 (11.1%)
		N=32. n=13. S=13 (100%)		N=17. n=6. S=6 (100%)
SBN	**N=324. n=134. S=113 (84.3%)**		**N=17. n=7. S=3 (42.9%)**	
	N=178. n=81. S=68 (84.0%)	N=101. n=43. S=34 (79.1%)	N=6. n=4. S=2 (50.0%)	N=1. n=0
		N=77. n=38. S=34 (89.5%)		N=5. n=4. S=2 (50.0%)
	N=146. n=53. S=45 (84.9%)	N=74. n=24. S=19 (79.2%)	N=11. n=3. S=1 (33.3%)	N=4. n=0
		N=72. n=29. S=26 (89.7%)		N=7. n=3. S=1 (33.3%)
SBR	**N=142**		**N=48**	
	N=72	N=72	N=21	N=21
		N=0		N=0
	N=70	N=70	N=27	N=27
		N=0		N=0

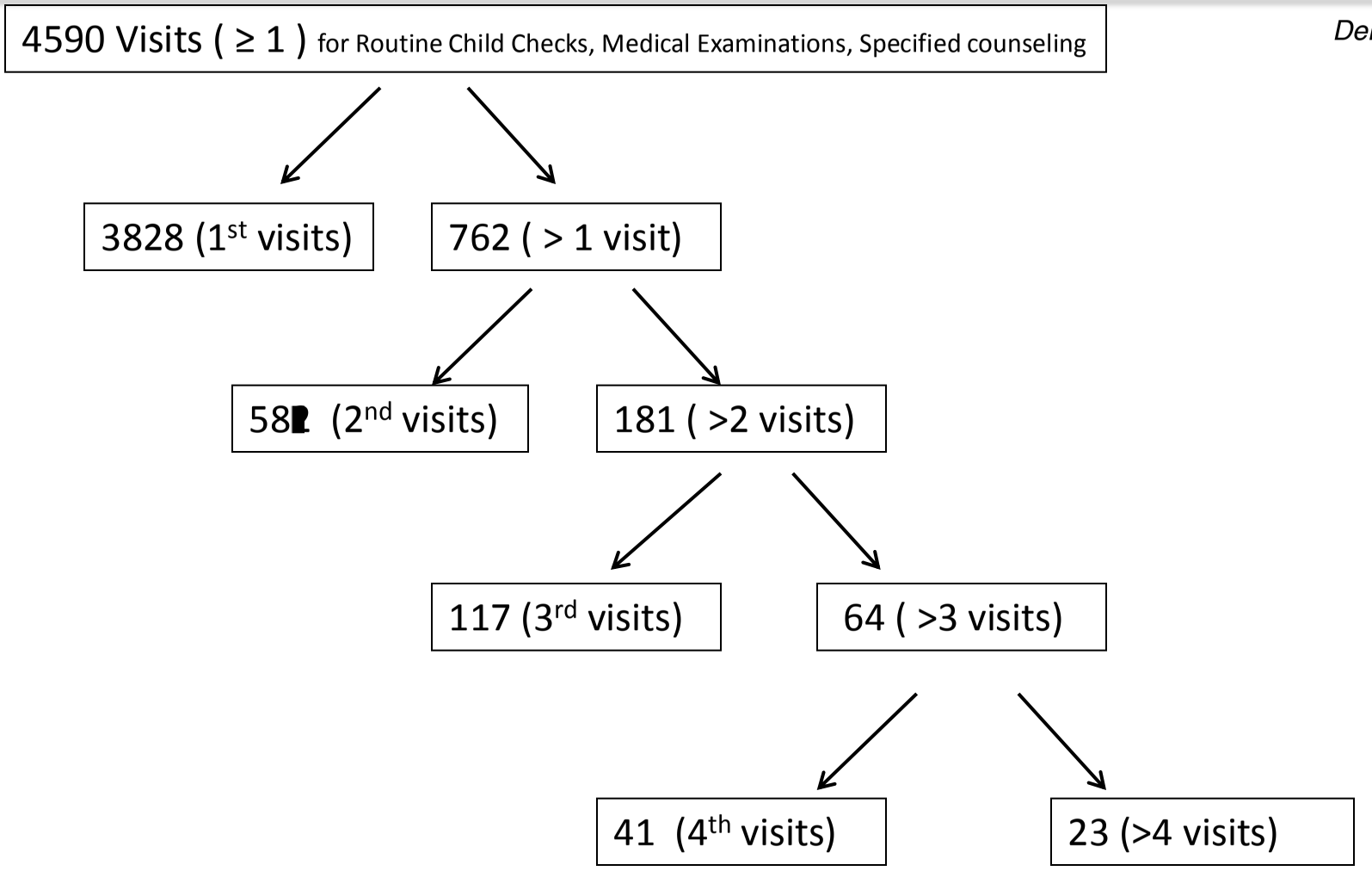
	Rate of administration of the Adolescent Confidential Health History Questionnaire per total V20.2 visits at the school, stratified by sex and age group (13-15) and (16-18)		Rate of administration of the Adolescent Confidential Health History Questionnaire per total V65.49 visits at the school, statified by sex and age group (13-15) and (16-18)	
School	**% completion among sampled V20.2 visits, also stratified by Sex**	**% completion among V20.2 visits categorized by Age Group among each Sex**	**% completion among sampled V65.49 visits, also stratified by Sex**	**% completion among V65.49 visits stratified by age group among each sex**
SBW	**N=102. n=42. S=37 (88.1%)**		N=0	
	N=29. n=19. S=15 (79.0%)	N=13. n=4. S=3 (75.0%)	N=0	N=0
		N=16. n=15. S=12 (80.0%)		N=0
	N=73. n=23. S=22 (95.7%)	N=32. n=7. S=7 (100%)	N=0	N=0
		N=41. n=16. S=15 (93.8%)		N=0
SKU	**N=88. n=36. S=20 (55.6%)**		**N=43. n=18. S=0 (0.0%)**	
	N=51. n=18. S=10 (55.6%)	N=51. n=18. S=10 (55.6%)	N=21	N=21
		N=0		N=0
	N=37. n=18. S=10 (55.6%)	N=37. n=18. S=10 (55.6%)	N=22	N=22
		N=0		N=0
SLA	**N=124. n=50. S=46 (92.0%)**		**N=42. n=18. S=10 (55.6%)**	
	N=74. n=28. S=26 (92.9%)	N=74. n=28. S=26 (92.9%)	N=20. n=9. S=6 (66.7%)	N=20. n=9. S=6 (66.7%)
		N=0		N=0
	N=50. n=22. S=20 (90.9%)	N=50. n=22. S=20 (90.9%)	N=22. n=9. S=4 (44.4%)	N=22. n=9. S=4 (44.4%)
		N=0		N=0
SMA	**N=143. n=58. S=29 (50.0%)**		**N=63. n=26. S=9 (34.6%)**	
	N=81. n=32. S=18 (56.3%)	N=52. n=19. S=6 (31.6%)	N=27. n=10. S=4 (40.0%)	N=7. n=4. S=1 (25.0%)
		N=29. n=13. S=12 (92.3%)		N=20. n=6. S=3 (50.0%)
	N=62. n=26. S=11 (42.3%)	N=35. n=16. S=6 (37.5%)	N=36. n=16. S=5 (31.3%)	N=17. n=8. S=2 (25.0%)
		N=27. n=10. S=5 (50%)		N=19. n=8. S=3 (37.5%)
SMO	**N=8. n=3. S=3 (100%)**		**N=339. n=113. S=81 (71.7%)**	
	N=3. n=2. S=2 (100%)	N=3. n=2. S=2 (100%)	N=103. n=57. S=53 (93.0%)	N=39. n=22. S=19 (86.4%)
		N=0		N=64. n=35. S=34 (97.1%)
	N=5. n=1. S=1 (100%)	N=3. n=2. S=2 (100%)	N=236. n=56. S=28 (50.0%)	N=75. n=29. S=16 (55.2%)
		N=2. n=1. S=1 (100%)		N=161. n=27. S=12 (44.4%)
SBS	**N=10. n=4. S=0 (0.0%)**		**N=160. n=65. S=27 (41.5%)**	
	N=2	N=0	N=63. n=22. S=12 (54.6%)	N=22. n=4. S=1 (25.0%)
		N=2		N=41. n=18. S=11 (61.1%)
	N=8	N=2	N=97. n=43. S=15 (34.9%)	N=32. n=15. S=9 (60.0%)
		N=6		N=65. n=28. S=6 (21.4%)

	Rate of administration of the Adolescent Confidential Health History Questionnaire per total V70.3 visits at the school, stratified by sex and age group (13-15) and (16-18)		Rate of administration of the Adolescent Confidential Health History Questionnaire per total V70.0 visits at the school, stratified by sex and age group (13-15) and (16-18)	
School	**% completion among sampled V70.3 visits, also stratified by Sex**	**% completion among V70.3 visits stratified by Age Group among each Sex**	**% completion among sampled V70.0 Visits, also stratified by Sex**	**% completion among V70.0 visits stratified by Age Group among each Sex**
SBJ	**N=237. n=95. S=94 (99.0%)**		**N=1. n=1 S=1 (100%)**	
	N=119. n=49. S=48 (98.0%)	N=51. n=19. S=19 (100%)	N=1. n=1 S=1 (100%)	N=0
		N=68. n=30. S=29 (96.7%)		N=1. n=1 S=1 (100%)
	N=118. n=46. S=46 (100%)	N=64. n=26. S=26 (100%)	N=0	N=0
		N=54. n=20. S=20 (100%)		N=0
SBK	**N=54. n=28. S=23 (82.1%)**		N=0	
	N=31. n=20. S=15 (75.0%)	N=31. n=20. S=15 (75.0%)	N=0	N=0
		N=0		N=0
	N=23. n=8. S=8 (100%)	N=23. n=8. S=8 (100%)	N=0	N=0
		N=0		N=0
SBL	**N=368. n=153. S=52 (34.0%)**		**N=1. n=1. S=0 (0.0%)**	
	N=175. n=83. S=32 (38.6%)	N=73. n=35. S=13 (37.1%)	N=1	N=0
		N=102. n=48. S=19 (39.6%)		N=1
	N=193. n=70. S=20 (28.6%)	N=83. n=30. S=6 (20.0%)	N=0	N=0
		N=110. n=40. S=14 (35.0%)		N=0
SBM	N=0		**N=1. n=1 S=1 (100%)**	
	N=0	N=0	N=0	N=0
		N=0		N=0
	N=0	N=0	N=1. n=1. S=1 (100%)	N=0
		N=0		N=1. n=1. S=1 (100%)
SBN	N=0		N=12. n=6. S=5 (83.3%)	
	N=0	N=0	N=9. n=4. S=4 (100%)	N=0
		N=0		N=9. n=4. S=4 (100%)
	N=0	N=0	N=3. n=2. S=1 (50.0%)	N=0
		N=0		N=3. n=2. S=1 (50.0%)
SBR	**N=14**		N=0	
	N=6	N=6	N=0	N=0
		N=0		N=0
	N=8	N=8	N=0	N=0
		N=0		N=0

	Rate of administration of the Adolescent Confidential Health History Questionnaire per total V70.3 visits at the school, stratified by sex and age group (13-15) and (16-18)		Rate of administration of the Adolescent Confidential Health History Questionnaire per total V70.0 visits at the school, stratified by sex and age group (13-15) and (16-18)	
School	**% completion among sampled V70.3 visits, also stratified by Sex**	**% completion among V70.3 visits stratified by Age Group among each Sex**	**% completion among sampled V70.0 Visits, also stratified by Sex**	**% completion among V70.0 visits stratified by Age Group among each Sex**
SBW	**N=211. n=85. S=81 (91.3%)**		N=14. n=12. S=11 (91.7%)	
	N=118. n=48. S=46 (95.8%)	N=56. n=18. S=17 (94.4%)	N=8. n=6. S=6 (100%)	N=1
		N=62. n=30. S=29 (96.7%)		N=7
	N=93. n=37. S=35 (94.6%)	N=39. n=14. S=12 (85.7%)	N=6. n=6. S=5 (83.3%)	N=0
		N=54. n=23. S=23 (100%)		N=6
SKU	N=0		N=0	
	N=0	N=0	N=0	N=0
		N=0		N=0
	N=0	N=0	N=0	N=0
		N=0		N=0
SLA	N=7. n=3. S=3 (100%)		N=0	
	N=4. n=1. s=1 (100%)	N=4. n=1. s=1 (100%)	N=0	N=0
		N=0		N=0
	N=3. n=2. S=2 (100%)	N=3. n=2. S=2 (100%)	N=0	N=0
		N=0		N=0
SMA	N=9. n=4. S=0 (0.0%)		N=12. n=5. S=2 (40.0%)	
	N=6	N=3	N=7. n=2. S=1 (50%)	N=0
		N=3		N=7. n=2. S=1 (50%)
	N=3	N=1	N=5. n=3. S=1 (33.3%)	N=0
		N=2		N=5. n=3. S=1 (33.3%)
SMO	N=161. n=89. S=88 (98.9%)		N=0	
	N=107. n=72. S=71 (98.6%)	N=44. n=31. S=30 (96.8%)	N=0	N=0
		N=63. n=41. S=41 (100%)		N=0
	N=54. n=17. S=17 (100%)	N=22. n=7. S=7 (100%)	N=0	N=0
		N=32. n=10. S=10 (100%)		N=0
SBS	N=337. n=132. S=0 (0.0%)		N=17. n=10. S=1 (10.0%)	
	N=210	N=115	N=6. n=3. S=1 (33.3%)	N=0
		N=95		N=6. n=3. S=1 (33.3%)
	N=127	N=48	N=11. n=6. S=5 (83.3%)	N=0
		N=79		N=11. n=6. S=5 (83.3%)

Descriptions of Visit Patterns among Patients at School-Based Health Centers in 2011

Denver Health



157 of 762 (20.6%) patients visiting for routine medical checks >1 time per year had their first visits checked for ACHH questionnaires.

- 56 of 157 (35.7%) first visits had ACHH questionnaires.
- 101 of 157 (64.3%) first visits had no ACHH questionnaires.

In all schools, out of 101 patients who did not receive an ACHH questionnaire on their first visit and yet had further visits, 16.3% received an ACHH questionnaire on another routine medical visit in the year.

Appendix 5, Chart 1. Baseline Eastside Family Health Center Adolescent Confidential Health History Responses. (N=428).					
QUESTIONS	YES	% YES	NO	% NO	Missing
1. Have you ever been hospitalized or had surgery?	119	28.1%	305	71.9%	4
2. Are you taking any prescription or over the counter medications or dietary supplements?	78	18.5%	344	81.5%	6
3. Have you been to the dentist in the past year?	297	69.7%	129	30.3%	2
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	20	4.7%	406	95.3%	2
5. In the past year, have you or your family member traveled to Mexico or other countries?	51	11.9%	376	88.1%	1
6. Do you exercise vigorously for at least 30 minutes 3 or more times a week?	257	60.9%	165	39.1%	6
7a. During exercise have you ever been dizzy?	73	18.1%	331	81.9%	24
7b. During exercise have you ever passed out?	9	2.4%	366	97.6%	53
8. Have you ever had a concussion or been unconscious?	40	9.5%	380	90.5%	8
9. Do you have trouble breathing or do you cough during or after exercise?	104	24.4%	322	75.6%	2
10. Have you ever had chest pain during or after exercise?	74	17.3%	353	82.7%	1
11. Have you ever had racing of your heart or skipped beats?	36	8.5%	387	91.5%	5
12. Has anyone in your family died before 55?	154	36.8%	264	63.2%	10
13. Are all 4 of your grandparents still alive?	133	31.7%	287	68.3%	8
14. (Y/N) Do you rollerblade, skateboard, bike…?	298	71.1%	121	28.9%	9
14b. (Y/N) Do you where a helmet if you did?	109	36.6%	189	63.4%	130
15. Do you wear a seatbelt when you ride in or drive a car, van or truck?	408	96.5%	15	3.5%	5
17. Have you ever lived with foster parents, in a group home or in a shelter?	56	13.1%	371	86.9%	1
18. Do you get along reasonably well with your family?	397	94.3%	24	5.7%	7
19. Do you have at least one adult you can talk to about your feelings?	401	94.1%	25	5.9%	2
20. Are you happy with your eating habits and your weight?	293	70.1%	125	29.9%	10
21. (Y/N) Do you drink at least one sweet drink each day?	390	91.6%	36	8.5%	2
22. (Y/N) Do you eat fast food at least once a week?	374	87.8%	52	12.2%	2
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	18	4.2%	408	95.8%	2
24. Have you or your friends ever been in trouble with the law?	106	24.9%	319	75.1%	3
25. Are gangs a part of your life now or in the past?	23	5.4%	402	94.6%	3
26. Have you ever dropped out of school or been suspended in the past year?	51	12.3%	363	87.7%	14
27. (Y/N) Do you usually get grades of A's or B's?	249	60.6%	162	39.4%	17
29. Do you work?	46	11.4%	359	88.6%	23
31. (Y/N) Do you smoke occasionnally/regularly?	40	9.4%	388	90.7%	0
32. (Y/N) Do you drink alcohol 'regularly'?	13	3.1%	412	96.9%	3
34. Does anyone in your family have a problem with alcohol or drug abuse?	68	16.3%	350	83.7%	10
35. (Y/N) Have you ever smoked pot?	63	14.9%	360	85.1%	5
36. Have you tried other drugs?	20	4.8%	394	95.2%	14

37. (Y/N) Are you G,L,B or T? (not sure=missing)	22	5.4%	386	94.6%	20
38. Do you have a current boyfriend/girlfriend?	115	27.3%	307	72.7%	6
39. (Y/N) Have you had sex before. If not sure, 'no'.	132	31.1%	292	68.9%	4
40. Do you always use condoms during sex?	83	82.2%	18	17.8%	327
41. Do you use birth control besides condoms?	46	35.9%	82	64.1%	
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	26	6.4%	383	93.6%	19
43. (Y/N) Have you/your partner ever been pregnant?	18	4.5%	386	95.5%	24
44. (Y/N) Have you ever been treated for an STI? (u=	26	6.4%	381	93.6%	21
45. During the past month, have you been under a lot of stress?	130	30.8%	292	69.2%	6
46. During the past 2 weeks, have you had fun?	360	85.7%	60	14.3%	8
47. Do you have problems with your sleep or being tired often?	144	34.0%	279	66.0%	5
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	97	22.9%	327	77.1%	4
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	24	5.7%	401	94.4%	3
50. Have you ever been physically, sexually, or emotionally abused?	25	5.9%	398	94.1%	5
51. Have you been in a fight or been assaulted in the past 3 months?	41	9.6%	386	90.4%	1
52. Do you ever need to carry a weapon?	11	2.6%	415	97.4%	2
53. Have you had a close personal friend die of gang-related violence this past year?	33	7.8%	393	92.3%	2
Do you speak English? (default: Spanish, missing: other or no answer)	307	74.2%	107	25.9%	14

Age Group, Ages		Frequency	Percent of sample	Percent of total Eastside population (N=451)
13-15		265	61.9%	62.1%
16-18		163	38.1%	37.9%
13		93	21.7%	
14		82	19.2%	
15		90	21.0%	
16		59	13.8%	
17		65	15.2%	
18		39	9.1%	

	Male, %		Female, %	
Sex:	188	43.90%	240	56.10%

	English, %		Spanish, %		Other, %		Missing
Primary Language:	307	73.4%	107	25.6%	4	1.0%	10
	Yes	% Yes	No	% No	N/A	% N/A	Missing
Do you wish to have an interpreter?	29	8.0%	309	84.7%	27	7.3%	63
	Hispanic, %	Black, %	White, %	Asian, %	Unknown, %	Native American, %	
Derived Race:	240 (56.1%)	155 (36.2%)	28 (6.6%)	4 (0.9%)	0 (0.0%)	1 (0.2%)	

Appendix 5. Chart 2. Health behavior frequencies at Eastside Family Health Center by gender and the odds of one behavior occurring among one gender compared to another. (N=428).

M= Missing	FEMALES (n=240)					MALES (n=188)					Odds Ratio Being Male	Odds Ratio Being Female
QUESTIONS	**YES**	**% YES**	**NO**	**% NO**	**M**	**YES**	**% YES**	**NO**	**% NO**	**M**		
1. Have you ever been hospitalized or had surgery?	63	26.5%	175	73.5%	2	56	30.1%	130	69.9%	2	1.2	0.8
2. Are you taking any prescription or over the counter medications or dietary supplements?	50	21.3%	185	78.7%	5	28	15%	159	85.0%	1	0.7	1.5
3. Have you been to the dentist in the past year?	168	70.6%	70	29.4%	2	129	68.6%	59	31.4%	0	0.9	1.1
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	11	4.6%	228	95.4%	1	9	4.8%	178	95.2%	1	1.0	1.0
5. In the past year, have you or your family member traveled to Mexico or other countries?	34	14.2%	206	85.8%	0	17	9.1%	170	90.9%	1	0.6	1.7
6. Do you exercise vigorously for at least 30 minutes 3 or more times a week?	114	48.5%	121	51.5%	5	143	76.5%	44	23.5%	1	3.4	0.3
7a. During exercise have you ever been dizzy?	49	22.0%	174	78.0%	17	24	13.3%	157	86.7%	7	0.5	1.8
7b. During exercise have you ever passed out?	5	2.4%	206	97.6%	29	4	2.4%	160	97.6%	24	1.0	1.0
8. Have you ever had a concussion or been unconscious?	16	6.8%	218	93.2%	6	24	12.9%	162	87.1%	2	2.0	0.5
9. Do you have trouble breathing or do you cough during or after exercise?	68	28.6%	170	71.4%	2	36	19.2%	152	80.9%	0	0.6	1.7
10. Have you ever had chest pain during or after exercise?	52	21.7%	188	78.3%	0	22	11.8%	165	88.2%	1	0.5	2.1
11. Have you ever had racing of your heart or skipped beats?	22	9.3%	215	90.7%	3	14	7.5%	172	92.5%	2	0.8	1.3
12. Has anyone in your family died before 55?	89	37.9%	146	62.1%	5	65	35.5%	118	64.5%	5	0.9	1.1
13. Are all 4 of your grandparents still alive?	67	28.3%	170	71.7%	3	66	36.1%	117	63.9%	5	1.5	0.7
14. (Y/N) Do you rollerblade, skateboard, bike…?	159	67.1%	78	32.9%	3	139	75.1%	46	24.9%	3	1.4	0.7
14b. (Y/N) Do you where a helmet if you did?	67	42.1%	92	57.9%	81	42	30.2%	97	69.8%	49	0.6	1.7
15. Do you wear a seatbelt when you ride in or drive a car, van or truck?	231	97.1%	7	2.9%	2	177	95.7%	8	4.3%	3	1.5	0.7
17. Have you ever lived with foster parents, in a group home or in a shelter?	27	11.3%	213	88.8%	0	29	15.5%	158	84.5%	1	1.4	0.7
18. Do you get along reasonably well with your family?	223	94.1%	14	5.9%	3	174	94.6%	10	5.4%	4	1.1	0.9
19. Do you have at least one adult you can talk to about your feelings?	225	94.5%	13	5.5%	2	176	93.6%	12	6.4%	0	0.8	1.2
20. Are you happy with your eating habits and your weight?	143	61.6%	89	38.4%	8	150	80.7%	36	19.4%	2	2.6	0.4
21. (Y/N) Do you drink at least one sweet drink each day?	217	91.2%	21	58.3%	2	173	92.0%	15	8.0%	0	1.1	0.9
22. (Y/N) Do you eat fast food at least once a week?	209	87.8%	29	12.2%	2	165	87.8%	23	12.2%	0	1.0	1.0
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	12	5.0%	228	95.0%	0	6	3.2%	180	96.8%	2	0.6	1.6
24. Have you or your friends ever been in trouble with the law?	47	19.7%	192	80.3%	1	59	31.7%	127	68.3%	2	1.9	0.5
25. Are gangs a part of your life now or in the past?	9	3.8%	230	96.2%	1	14	7.5%	172	92.5%	2	2.1	0.5
26. Have you ever dropped out of school or been suspended in the past year?	23	10.0%	208	90.0%	9	28	15.3%	155	84.7%	5	1.6	0.6
27. (Y/N) Do you usually get grades of A's or B's?	154	67.0%	76	33.0%	10	95	52.5%	86	47.5%	7	0.5	1.8
29. Do you work?	24	10.6%	203	89.4%	13	22	12.4%	156	87.6%	10	1.2	0.8
31. (Y/N) Do you smoke occasionnally/regularly?	24	10.0%	216	90.0%	0	16	8.5%	172	91.5%	0	0.8	1.2
32. (Y/N) Do you drink alcohol 'regularly'?	7	2.9%	231	97.1%	2	6	3.2%	181	96.8%	1	1.1	0.9
34. Does anyone in your family have a problem with alcohol or drug abuse?	39	16.6%	196	83.4%	5	29	15.9%	154	84.2%	5	0.9	1.1
35. (Y/N) Have you ever smoked pot?	35	14.6%	204	85.4%	1	28	15.2%	156	84.8%	4	1.0	1.0
36. Have you tried other drugs?	12	5.1%	222	94.9%	6	8	4.4%	172	95.6%	8	0.9	1.2
37. (Y/N) Are you G,L,B or T? (not sure=missing)	19	8.5%	205	91.5%	16	3	1.6%	181	98.4%	4	0.2	5.6
38. Do you have a current boyfriend/girlfriend?	64	27.0%	173	73.0%	3	51	27.6%	134	72.4%	3	1.0	1.0
39. (Y/N) Have you had sex before. If not sure, 'no'.	76	32.1%	161	67.9%	3	56	30.0%	131	70.5%	1	0.9	1.1
40. Do you always use condoms during sex?	47	83.9%	9	16.1%	184	36	80.0%	9	20.0%	143	0.8	1.3
41. Do you use birth control besides condoms?	31	41.3%	44	58.7%	165	15	28.3%	38	71.7%	136	0.6	1.8
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	20	8.8%	207	91.2%	13	6	3.3%	176	96.7%	6	0.4	2.8
43. (Y/N) Have you/your partner ever been pregnant?	13	5.7%	215	94.3%	12	5	2.8%	171	97.2%	12	0.5	2.1
44. (Y/N) Have you ever been treated for an STI? (u=.)	25	11.1%	201	88.9%	14	1	0.6%	180	99.5%	7	0.0	22.4
45. During the past month, have you been under a lot of stress?	88	37.6%	146	62.4%	6	42	22.3%	146	77.7%	0	0.5	2.1
46. During the past 2 weeks, have you had fun?	193	82.1%	42	17.9%	5	167	90.3%	18	9.7%	3	2.0	0.5
47. Do you have problems with your sleep or being tired often?	101	42.6%	136	57.4%	3	43	23.1%	143	76.9%	2	0.4	2.5
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	67	28.4%	169	71.6%	4	30	16.0%	158	84.0%	0	0.5	2.1
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	15	6.3%	223	93.7%	2	9	4.8%	178	95.2%	1	0.8	1.3
50. Have you ever been physically, sexually, or emotionally abused?	21	8.9%	216	91.1%	3	4	2.2%	182	97.9%	2	0.2	4.4
51. Have you been in a fight or been assaulted in the past 3 months?	19	8.0%	220	92.1%	1	22	11.7%	166	83.3%	0	1.5	0.7
52. Do you ever need to carry a weapon?	8	3.4%	230	96.6%	2	3	1.6%	185	98.4%	0	0.5	2.1
53. Have you had a close personal friend die of gang-related violence this past year?	19	8.0%	219	92.0%	2	14	7.5%	174	92.6%	0	0.9	1.1

Age Group, Ages		Males (n=188)		Females (N=240)	
		Frequency	Percent of sample	Frequency	Percent of sample
	13-15	112	59.6%	153	63.8%
	16-18	76	40.4%	87	36.3%
	13	41	21.8%	52	21.7%
	14	42	22.3%	40	16.7%
	15	29	15.4%	61	25.4%
	16	34	18.1%	25	10.4%
	17	26	13.8%	39	16.3%
	18	16	8.5%	23	9.6%

	Males (n=188)						
	English, %		Spanish, %		Other, %		Missing
Primary Language:	138	74.6%	46	24.9%	1	0.5%	3
	Yes, %		No, %		N/A, %		Missing
Do you wish to have an interpreter?	13	8.3%	134	85.4%	10	6.4%	31
	Hispanic, %		Black, %	White, %	Asian, %	Unknown, %	Native American, %
Derived Race:	104 (55.3%)		66 (35.1%)	15 (8.0%)	2 (1.1%)	0 (0.0%)	1 (0.5%)

	Females (n=240)						
	English, %		Spanish, %		Other, %		Missing
Primary Language:	138	72.5%	61	26.2%	3	1.3%	38
	Yes, %		No, %		N/A, %		Missing
Do you wish to have an interpreter?	16	7.7%	175	84.1%	17	8.2%	32
	Hispanic, %		Black, %	White, %	Asian, %	Unknown, %	Native American, %
Derived Race:	136	56.70%	89 (37.1%)	13 (5.42%)	2 (0.8%)	0 (0.0%)	0 (0.0%)

Appendix 5, Chart 3. Baseline health outcomes stratified by race.

M=Missing	Hispanic (N=240)					Black (N=155)					White (N=28)				
QUESTIONS	YES	% YES	NO	% NO	M	YES	% YES	NO	% NO	M	YES	% YES	NO	% NO	M
1. Have you ever been hospitalized or had surgery?	65	27.3%	173	72.7%	2	40	26.0%	114	74.0%	1	12	44.4%	15	55.6%	0
2. Are you taking any prescription or over the counter medications or dietary supplements?	31	13.1%	206	86.9%	3	36	23.7%	116	76.3%	3	8	28.6%	20	71.4%	0
3. Have you been to the dentist in the past year?	173	72.4%	66	27.6%	1	101	65.6%	53	34.4%	1	19	67.9%	9	32.1%	0
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	11	4.6%	228	95.4%	1	8	5.2%	146	94.8%	1	1	3.6%	27	96.4%	0
5. In the past year, have you or your family member traveled to Mexico or other countries?	42	17.6%	197	82.4%	1	8	5.2%	147	94.8%	0	1	3.6%	27	96.4%	0
6. Do you exercise vigorously for at least 30 minutes 3 or more times a week?	141	59.5%	96	40.5%	3	95	62.5%	57	37.5%	3	17	60.7%	11	39.3%	0
7a. During exercise have you ever been dizzy?	35	15.8%	187	84.2%	18	28	18.8%	121	81.2%	6	7	25.0%	21	75.0%	0
7b. During exercise have you ever passed out?	5	2.4%	206	97.6%	29	3	2.2%	131	97.8%	21	1	3.9%	25	96.2%	2
8. Have you ever had a concussion or been unconscious?	19	8.0%	219	92.0%	2	18	12.0%	132	88.0%	5	3	11.1%	24	88.9%	1
9. Do you have trouble breathing or do you cough during or after exercise?	48	20.1%	191	79.9%	1	42	27.3%	112	72.7%	1	11	39.3%	17	60.7%	0
10. Have you ever had chest pain during or after exercise?	34	14.2%	205	85.8%	1	31	20.0%	124	80.0%	0	8	28.6%	20	71.4%	0
11. Have you ever had racing of your heart or skipped beats?	17	7.2%	220	92.8%	3	16	10.4%	138	89.6%	1	3	11.1%	24	88.9%	1
12. Has anyone in your family died before 55?	67	28.6%	167	71.4%	6	70	46.1%	82	54.0%	3	13	48.2%	14	51.9%	1
13. Are all 4 of your grandparents still alive?	84	35.6%	152	64.4%	4	45	29.6%	107	70.4%	3	3	10.7%	25	89.3%	0
14. (Y/N) Do you rollerblade, skateboard, bike…?	168	71.2%	68	28.8%	4	103	67.32%	50	32.68%	2	22	81.48	5	18.52	1
14b. (Y/N) Do you where a helmet if you did?	106	63.1%	62	36.9%	72	36	34.95%	67	65.05%	52	10	45.45	12	54.55	6
15. Do you wear a seatbelt when you ride in or drive a car, van or truck?	228	95.4%	11	4.6%	1	149	97.4%	4	2.6%	2	26	100.0%	0	0.0%	2
17. Have you ever lived with foster parents, in a group home or in a shelter?	24	10.0%	216	90.0%	0	22	14.3%	132	85.7%	1	8	28.6%	20	71.4%	0
18. Do you get along reasonably well with your family?	220	93.6%	15	6.4%	5	148	96.1%	6	3.9%	1	24	88.9%	3	11.1%	0
19. Do you have at least one adult you can talk to about your feelings?	222	93.3%	16	6.7%	2	148	95.5%	7	4.5%	0	27	96.4%	1	3.6%	0
20. Are you happy with your eating habits and your weight?	157	96.3%	77	32.9%	6	113	74.8%	38	25.2%	4	19	67.9%	9	32.1%	0
21. (Y/N) Do you drink at least one sweet drink each day?	215	90.3%	23	9.7%	2	147	94.8%	8	5.2%	0	24	85.7%	4	14.3%	0
22. (Y/N) Do you eat fast food at least once a week?	214	89.1%	26	10.9%	1	138	89.6%	16	10.4%	1	20	71.4%	8	28.6%	0
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	14	5.9%	225	94.1%	1	2	1.3%	152	98.7%	1	2	7.1%	26	92.9%	0
24. Have you or your friends ever been in trouble with the law?	46	19.3%	193	80.8%	1	47	30.7%	106	69.3%	2	10	35.7%	18	64.3%	0
25. Are gangs a part of your life now or in the past?	14	5.9%	225	94.1%	1	7	4.6%	146	95.4%	2	2	7.1%	26	92.9%	0
26. Have you ever dropped out of school or been suspended in the past year?	27	11.8%	201	88.2%	12	20	13.1%	133	86.9%	2	3	10.7%	25	89.3%	0
27. (Y/N) Do you usually get grades of A's or B's?	138	59.7%	93	40.3%	9	88	59.9%	59	40.1%	8	18	64.3%	10	35.7%	0
29. Do you work?	22	9.7%	204	90.3%	14	20	13.5%	128	86.5%	7	4	15.4%	22	84.6%	2
31. (Y/N) Do you smoke occasionnally/regularly?	24	10.0%	216	90.0%	0	13	8.4%	142	91.6%	0	3	10.7%	25	89.3%	0
32. (Y/N) Do you drink alcohol 'regularly'?	10	4.2%	228	95.8%	2	3	1.9%	152	98.1%	0	0	0.0%	27	100.0%	1
34. Does anyone in your family have a problem with alcohol or drug abuse?	31	13.3%	203	86.8%	6	29	19.2%	122	80.8%	4	7	25.0%	21	75.0%	0
35. (Y/N) Have you ever smoked pot?	35	14.8%	204	85.4%	1	25	16.5%	127	83.6%	3	3	11.1%	24	88.9%	1
36. Have you tried other drugs?	16	7.0%	214	93.0%	10	4	2.7%	147	97.4%	4	0	0.0%	28	100.0%	0
37. (Y/N) Are you G,L,B or T? (not sure=missing)	68	28.8%	168	71.2%	4	53	34.2%	102	65.8%	0	10	35.7%	18	64.3%	0
38. Do you have a current boyfriend/girlfriend?	69	29.0%	169	71.0%	2	39	25.8%	112	74.2%	7	6	21.4%	22	78.6%	0
39. (Y/N) Have you had sex before. If not sure, 'no'.	10	4.4%	218	95.6%	12	9	6.1%	139	93.9%	7	3	11.1%	24	88.9%	1
40. Do you always use condoms during sex?	44	84.6%	8	15.4%	188	34	81.0%	8	19.0%	113	4	66.7%	2	33.3%	22
41. Do you use birth control besides condoms?	26	38.8%	41	61.2%	173	14	28.0%	36	72.0%	105	6	60.0%	4	40.0%	18
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	12	5.2%	218	94.8%	10	12	8.1%	136	91.9%	7	2	7.7%	24	92.3%	2
43. (Y/N) Have you/your partner ever been pregnant?	9	4.0%	215	96.0%	16	9	6.0%	140	94.0%	6	0	0.0%	26	100.0%	2
44. (Y/N) Have you ever been treated for an STI? (u=.)	13	5.7%	215	94.3%	12	11	7.4%	137	92.6%	7	1	3.9%	25	96.2%	1
45. During the past month, have you been under a lot of stress?	68	28.8%	168	71.2%	4	47	30.7%	106	69.3%	2	12	42.9%	16	57.1%	0
46. During the past 2 weeks, have you had fun?	203	86.0%	33	14.0%	4	130	85.5%	22	14.5%	3	23	85.2%	4	14.8%	1
47. Do you have problems with your sleep or being tired often?	76	31.9%	162	68.1%	2	55	36.0%	98	64.1%	2	12	44.4%	15	55.6%	1
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	48	20.2%	190	79.8%	1	36	23.5%	117	76.5%	2	11	39.3%	17	60.7%	0
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	15	6.3%	224	93.7%	1	5	3.3%	149	96.8%	1	3	11.1%	24	88.9%	1
50. Have you ever been physically, sexually, or emotionally abused?	11	4.7%	225	95.3%	4	12	7.8%	142	92.2%	1	2	7.1%	26	92.9%	0
51. Have you been in a fight or been assaulted in the past 3 months?	24	10.0%	215	90.0%	1	15	9.7%	140	90.3%	0	1	3.6%	27	96.4%	0
52. Do you ever need to carry a weapon?	5	2.1%	234	97.9%	1	5	3.3%	149	96.8%	1	0	0.0%	28	100.0%	0
53. Have you had a close personal friend die of gang-related violence this past year?	18	7.5%	221	92.5%	1	12	7.8%	142	92.2%	1	2	7.1%	26	92.9%	0
Do you speak English? (default: Spanish, missing: other or no answer)	129	55.1%	105	44.9%	6	148	100.0%	0	0.0%	7	26	92.9%	2	7.1%	0

Appendix 6, Chart 1, Page 1. Odds ratios of question respone being "Yes" to while being male, female, 16-18, hispanic, or black rather than not. Eastside Family Health Clinic ACHH responses. (N=428).					
	Gender: Male	Gender: Female	Being 16-18 vs. 13-15	Being Hispanic	Being Black
Predictor Outcome (Is positive for the predictor unless otherwise specified)	Odds Ratio (Being Male)	Odds Ratio (Being Female)	Odds Ratio	Odds Ratio	Odds Ratio
1. Have you ever been hospitalized or had surgery?	1.2	0.8	1.6	0.9	0.8
2. Are you taking any prescription or over the counter medications or dietary supplements?	0.7	1.5	1.1	0.4	1.7
3. Have you NOT been to the dentist in the past year?	1.1	0.9	1.8	0.8	1.4
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	1.0	1.0	0.9	1.0	1.2
5. In the past year, have you or your family member traveled to Mexico or other countries?	0.6	1.7	0.8	4.2	0.3
6. Do you NOT exercise vigorously for at least 30 minutes 3 or more times a week?	0.3	3.4	0.8	1.1	0.9
7a. During exercise have you ever been dizzy?	0.5	1.8	1.2	0.7	1.1
7b. During exercise have you ever passed out?	1.0	1.0	0.5	1.0	0.9
8. Have you ever had a concussion or been unconscious?	2.0	0.5	1.6	0.7	1.5
9. Do you have trouble breathing or do you cough during or after exercise?	0.6	1.7	1.0	0.6	1.3
10. Have you ever had chest pain during or after exercise?	0.5	2.1	1.2	0.6	1.3
11. Have you ever had racing of your heart or skipped beats?	0.8	1.3	0.9	0.7	1.4
12. Has anyone in your family died before 55?	0.9	1.1	1.2	0.4	1.8
13. Are all 4 of your grandparents NOT still alive?	0.7	1.4	1.1	0.7	1.2
14. (Y/N) Do you NOT rollerblade, skateboard, bike…?	0.7	1.4	2.2	0.9	1.3
14b. (Y/N) Do you NOT where a helmet if you did?	1.7	0.6	0.9	1.0	1.1
15. Do you NOT wear a seatbelt when you ride in or drive a car, van or truck?	1.5	0.7	0.2	2.2	0.6
17. Have you ever lived with foster parents, in a group home or in a shelter?	1.4	0.7	0.9	0.5	1.2
18. Do you NOT get along reasonably well with your family?	0.9	1.1	0.4	1.3	0.6
19. Do you NOT have at least one adult you can talk to about your feelings?	1.2	0.8	0.9	1.4	0.7
20. Are you NOT happy with your eating habits and your weight?	0.4	2.6	1.0	1.4	0.7
21. (Y/N) Do you drink at least one sweet drink each day?	1.1	0.9	0.7	0.7	2.1
22. (Y/N) Do you eat fast food at least once a week?	1.0	1.0	0.8	1.3	1.3
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	0.6	1.6	2.1	2.8	0.2
24. Have you or your friends ever been in trouble with the law?	1.9	0.5	1.6	0.5	1.6

25. Are gangs a part of your life now or in the past?	2.1	0.5	1.3	1.2	0.8
26. Have you ever dropped out of school or been suspended in the past year?	1.6	0.6	1.1	0.9	1.1
27. (Y/N) Do you NOT usually get grades of A's or B's?	1.8	0.5	1.2	1.1	1.0
29. Do you NOT work?	0.8	1.2	0.3	1.4	0.7
31. (Y/N) Do you smoke occasionnally/regularly?	0.8	1.2	2.7	1.2	0.8
32. (Y/N) Do you drink alcohol 'regularly'?	1.1	0.9	1.4	2.7	0.5
34. Does anyone in your family have a problem with alcohol or drug abuse?	0.9	1.1	1.3	0.6	1.4
35. (Y/N) Have you ever smoked pot?	1.0	1.0	2.5	1.0	1.2
36. Have you tried other drugs?	0.9	1.2	1.7	3.4	0.4
37. (Y/N) Are you G,L,B or T? (not sure=missing)	0.2	5.6	1.6	0.6	1.2
38. Do you have a current boyfriend/girlfriend?	1.0	1.0	1.5	1.2	0.9
39. (Y/N) Have you had sex before. If not sure, 'no'.	0.9	1.1	6.2	0.8	1.2
40. Do you NOT always use condoms during sex?	1.3	0.8	0.6	0.7	1.2
41. Do you NOT use birth control besides condoms?	1.8	0.6	0.5	0.8	1.8
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	0.4	2.8	1.0	0.6	1.6
43. (Y/N) Have you/your partner ever been pregnant?	0.5	2.1	6.2	0.8	1.8
44. (Y/N) Have you ever been treated for an STI? (u=.)	0.04	22.4	6.0	0.8	1.3
45. During the past month, have you been under a lot of stress?	0.5	2.1	1.6	0.8	1.0
46. During the past 2 weeks, have you NOT had fun?	0.5	2.0	0.9	0.9	1.0
47. Do you have problems with your sleep or being tired often?	0.4	2.5	0.8	0.8	1.1
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	0.5	2.1	0.8	0.7	1.1
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	0.8	1.3	0.8	1.3	0.4
50. Have you ever been physically, sexually, or emotionally abused?	0.2	4.4	1.1	0.6	1.7
51. Have you been in a fight or been assaulted in the past 3 months?	1.5	0.7	0.9	1.1	1.0
52. Do you ever need to carry a weapon?	0.5	2.1	2.9	0.6	1.5
53. Have you had a close personal friend die of gang-related violence this past year?	0.9	1.1	0.5	0.9	1.0
Do you identify as the male sex?			1.2	0.9	0.9
AGE category (16-18)?	1.2	0.8		0.7	1.3
Hispanic Vs. not-Hispanic	0.9	1.1	0.7		0.0
Black vs. not-Black	0.9	1.1	1.3	0.0	
	Gender: Male	Gender: Female	**Being 16-18 vs. 13-15**	**Being Hispanic**	**Being Black**

*BLANK IF A CROSS-TAB VALUE WAS (0)

Appendix 6, Chart 1, Page 2. Odds ratios of Responding to the question in the row as "Yes" to while also responding "Yes" to the conditions in the column title. Eastside Family Health Clinic ACHH responses. (N=428).

Predictor Outcome (Is positive for the predictor unless otherwise specified)	Family Drug Abuse (68) Odds Ratio	Smoking Marijuana Odds Ratio	Sexual Activity Odds Ratio	Had an STI test? Odds Ratio	Being Stressed Odds Ratio	Not having fun Odds Ratio	Having Insomnia Odds Ratio	Being Sad or Down Odds Ratio	Almost Suicide Odds Ratio	Has been abused (25) Odds Ratio
1. Have you ever been hospitalized or had surgery?	1.2	1.9	1.9	2.0	1.4	1.0	1.7	1.4	3.3	2.1
2. Are you taking any prescription or over the counter medications or dietary supplements?	2.4	1.5	1.8	3.2	2.2	1.5	2.3	1.7	1.2	3.8
3. Have you NOT been to the dentist in the past year?	1.1	1.5	1.5	1.7	1.3	1.0	0.6	1.4	1.4	0.6
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	2.3	2.6	2.1	1.8	1.5	3.5	1.5	0.6	0.9	3.0
5. In the past year, have you or your family member traveled to Mexico or other countries?	0.7	0.9	0.7	0.3	1.0	1.3	0.8	1.0	1.0	1.4
6. Do you NOT exercise vigorously for at least 30 minutes 3 or more times a week?	1.0	1.6	0.8	2.6	1.4	1.6	2.0	1.5	2.8	1.1
7a. During exercise have you ever been dizzy?	2.2	1.4	1.3	1.5	3.1	2.1	4.4	4.5	1.5	1.6
7b. During exercise have you ever passed out?	0.7	2.1	2.9	0.9	0.3	0.7	1.0	1.0	2.4	
8. Have you ever had a concussion or been unconscious?	1.6	2.0	1.8	0.9	2.6	0.8	0.9	1.0	2.7	2.7
9. Do you have trouble breathing or do you cough during or after exercise?	1.5	2.0	1.8	3.9	1.9	1.3	2.3	1.9	2.5	4.5
10. Have you ever had chest pain during or after exercise?	1.4	2.7	2.4	4.7	1.7	1.3	2.4	2.7	2.0	4.2
11. Have you ever had racing of your heart or skipped beats?	1.6	0.7	1.2	0.9	2.3	2.0	1.6	2.2	4.3	4.0
12. Has anyone in your family died before 55?	2.3	1.4	1.5	2.1	1.6	1.6	1.4	1.6	1.0	0.9
13. Are all 4 of your grandparents NOT still alive?	1.5	0.4	1.6	2.0	1.4	1.2	1.4	1.0	1.0	1.2
14. (Y/N) Do you NOT rollerblade, skateboard, bike…?	0.9	1.2	1.7	1.5	1.2	1.1	0.9	0.9	0.3	0.2
14b. (Y/N) Do you NOT where a helmet if you did?	1.0	1.4	0.9	1.7	1.1	1.7	1.2	1.6	1.5	2.1
15. Do you NOT wear a seatbelt when you ride in or drive a car, van or truck?	1.3	3.0	0.9	1.1	0.5	1.6	2.3	1.3	1.2	1.1
17. Have you ever lived with foster parents, in a group home or in a shelter?	2.8	4.9	2.1	4.5	1.8	1.6	1.8	1.2	2.9	7.6
18. Do you NOT get along reasonably well with your family?	2.4	3.9	1.2	1.6	4.1	2.1	3.9	3.1	3.9	2.4
19. Do you NOT have at least one adult you can talk to about your feelings?	2.6	6.2	3.3	3.3	3.7	4.6	3.2	7.2	2.6	3.4
20. Are you NOT happy with your eating habits and your weight?	1.1	1.7	1.2	3.2	3.8	1.7	4.0	3.5	3.9	2.1
21. (Y/N) Do you drink at least one sweet drink each day?	0.5	1.3	2.0	2.5	1.2	1.9	1.9	1.3		
22. (Y/N) Do you eat fast food at least once a week?	0.9	1.7	1.1	1.1	0.9	1.3	1.0	0.9	0.7	
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	2.0	0.7	2.9	0.9	2.3	3.2	2.3	4.1	10.8	5.2
24. Have you or your friends ever been in trouble with the law?	1.8	3.8	3.0	5.0	2.5	1.2	1.8	1.7	3.2	3.6
25. Are gangs a part of your life now or in the past?	4.6	9.2	3.1	1.6	2.2	1.9	3.9	2.3	7.5	7.5
26. Have you ever dropped out of school or been suspended in the past year?	2.6	3.3	3.5	5.1	2.0	2.9	2.6	2.3	4.0	3.3
27. (Y/N) Do you NOT usually get grades of A's or B's?	1.6	3.6	1.9	1.5	1.5	1.9	2.1	1.7	2.8	1.9
29. Do you NOT work?	1.7	0.4	0.5	0.6	0.8	0.9	0.8	0.8	2.8	0.9
31. (Y/N) Do you smoke occasionnally/regularly?	4.2	13.2	15.9	21.2	4.7	1.4	3.5	2.2	1.4	4.3
32. (Y/N) Do you drink alcohol 'regularly'?	4.8	38.5	7.1	5.6	4.7	2.0	4.6	3.0	1.4	3.0
34. Does anyone in your family have a problem with alcohol or drug abuse?		4.2	2.2	5.6	2.6	2.0	2.4	2.3	1.4	5.4
35. (Y/N) Have you ever smoked pot?	4.2		7.5	7.2	2.6	1.5	2.4	1.4	1.5	4.3

36. Have you tried other drugs?	6.3	8.3	2.9	3.3	4.5	1.5	4.9	3.7	3.3	3.4
37. (Y/N) Are you G,L,B or T? (not sure=missing)	2.1	4.7	6.2	5.0	2.1	1.9	2.2	2.8	9.1	9.8
38. Do you have a current boyfriend/girlfriend?	2.1	2.6	4.0	3.9	1.8	1.1	1.7	2.3	1.6	2.2
39. (Y/N) Have you had sex before. If not sure, 'no'.	2.2	7.5		33.4	2.8	1.0	1.6	1.7	2.3	4.0
40. Do you NOT always use condoms during sex?	1.1	2.0		1.4	0.8	0.6	1.3	1.2	2.0	9.9
41. Do you NOT use birth control besides condoms?	0.8	0.9	0.8	0.2	0.5	0.4	0.4	1.2	1.1	0.8
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	3.7	4.0	3.8	4.3	4.8	3.6	2.1	2.7	10.1	33.6
43. (Y/N) Have you/your partner ever been pregnant?	2.3	3.2	9.1	28.8	6.1	2.5	2.6	2.7	2.3	9.4
44. (Y/N) Have you ever been treated for an STI? (u=.)	5.6	7.2	33.4		13.8	2.6	6.0	2.7	0.6	5.0
45. During the past month, have you been under a lot of stress?	2.6	2.6	2.8	13.8		4.7	5.1	9.4	6.2	5.3
46. During the past 2 weeks, have you NOT had fun?	2.0	1.5	1.0	2.6	4.7		2.9	4.5	2.8	3.1
47. Do you have problems with your sleep or being tired often?	2.4	2.4	1.6	6.0	5.1	2.9		8.6	4.3	3.1
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	2.3	1.4	1.7	2.7	9.4	4.5	8.6		7.8	4.1
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	1.4	1.5	2.3	0.6	6.2	2.8	4.3	7.8		18.2
50. Have you ever been physically, sexually, or emotionally abused?	5.4	4.3	4.0	5.0	5.3	3.1	3.1	4.1	18.2	
51. Have you been in a fight or been assaulted in the past 3 months?	3.2	5.8	4.3	1.7	3.3	1.9	3.1	2.7	3.5	4.2
52. Do you ever need to carry a weapon?	3.6	3.4	2.3	3.4	9.5	1.5	5.5	1.5	1.7	6.6
53. Have you had a close personal friend die of gang-related violence this past year?	3.9	5.1	8.3	10.7	2.6	1.4	2.2	1.8	2.6	4.3
Do you identify as the male sex?	0.9	1.0	0.9	0.0	0.5	0.5	0.4	0.5	0.8	0.2
AGE category (16-18)?	1.3	2.5	6.2	6.0	1.6	0.9	0.8	0.8	0.8	1.1
Hispanic Vs. not-Hispanic	0.6	1.0	0.8	0.8	0.8	0.9	0.8	0.7	1.3	0.6
Black vs. not-Black	1.4	1.2	1.2	1.3	1.0	1.0	1.1	1.1	0.4	1.7
*BLANK IF A CROSS-TAB VALUE WAS (0)	**Family Drug Abuse (68)**	**Smoking Marijuana**	**Sexual Activity**	**Had an STI test?**	**Being Stressed**	**Not having fun**	**Having Insomnia**	**Being Sad or Down**	**Almost Suicide**	**Has been abused (25)**

Appendix 6, Chart 1, Page 3. Odds ratios of Responding to the question in the row as "Yes" to while also responding "Yes" to the conditions in the column title. Eastside Family Health Clinic ACHH responses. (N=428).

Predictor Outcome (Is positive for the predictor unless otherwise specified)	YES (#)	Not exercise enough Odds Ratio	Dizzy During Exercise Odds Ratio	Breathing Trouble Odds Ratio	Chest pain after Exercise Odds Ratio	Foster/group /shelter (56) Odds Ratio	No Adult to Talk To Odds Ratio	Not happy weight Odds Ratio	Law Trouble Odds Ratio	Bad Grades Odds Ratio	Smoke Cigarettes Odds Ratio
1. Have you ever been hospitalized or had surgery?	119 (28.1%)	1.0	1.9	2.0	3.0	0.9	1.8	1.1	1.9	0.7	2.6
2. Are you taking any prescription or over the counter medications or dietary supplements?	78 (18.5%)	1.0	2.1	3.2	1.9	2.4	2.7	1.3	2.4	1.3	2.3
3. Have you NOT been to the dentist in the past year?	129 (30.3%)	1.2	1.6	1.5	1.2	1.0	1.6	1.5	1.0	0.9	2.0
4. In the past year, have you stayed overnight in a homeless shelter, jail, or detention center?	20 (4.7%)	2.0	0.2	2.1	1.2	4.0	1.8	1.0	1.7	2.8	4.7
5. In the past year, have you or your family member traveled to Mexico or other countries?	51 (11.9%)	1.0	1.1	0.5	0.6	0.4	1.5	1.0	0.6	0.6	0.6
6. Do you NOT exercise vigorously for at least 30 minutes 3 or more times a week?	165 (39.1%)		0.8	1.7	1.6	1.2	1.8	1.7	0.7	1.5	1.6
7a. During exercise have you ever been dizzy?	73 (18.1%)	0.8		3.6	3.5	0.7	3.4	2.3	1.0	1.3	0.9
7b. During exercise have you ever passed out?	9 (2.4%)	2.2	3.5	2.5	3.8	0.4	2.2	2.5	0.4	1.3	
8. Have you ever had a concussion or been unconscious?	40 (9.5%)	0.6	1.7	1.7	2.3	1.5	1.3	0.9	2.2	1.3	1.9
9. Do you have trouble breathing or do you cough during or after exercise?	104 (24.4%)	1.7	3.6		21.4	1.7	2.0	1.6	1.8	1.2	4.0
10. Have you ever had chest pain during or after exercise?	74 (17.3%)	1.6	3.5	21.4		0.9	3.0	1.7	2.0	1.3	2.2
11. Have you ever had racing of your heart or skipped beats?	36 (8.5%)	1.5	2.7	5.6	7.9	1.3	2.2	1.6	2.5	0.9	1.2
12. Has anyone in your family died before 55?	154 (36.8%)	0.9	1.7	1.7	1.4	1.3	1.9	1.2	1.7	1.0	2.6
13. Are all 4 of your grandparents NOT still alive?	287 (68.3%)	1.0	1.9	1.4	1.3	1.9	1.1	1.2	1.3	0.9	2.0
14. (Y/N) Do you NOT rollerblade, skateboard, bike…?	1221 (28.9%)	1.0	1.1	0.8	0.8	0.7	0.8	1.0	0.7	0.9	1.2
14b. (Y/N) Do you NOT where a helmet if you did?	189 (63.4%)	1.3	1.7	1.0	1.0	0.8	5.3	0.9	1.7	1.7	1.1
15. Do you NOT wear a seatbelt when you ride in or drive a car, van or truck?	15 (3.5%)	0.9	1.9	1.6	1.8	1.8	10.2	1.2	1.7	4.0	1.5
17. Have you ever lived with foster parents, in a group home or in a shelter?	56 (13.1%)	1.2	0.7	1.7	0.9		1.3	1.5	3.1	1.9	3.3
18. Do you NOT get along reasonably well with your family?	24 (5.7%)	1.4	2.6	1.3	2.5	1.9	9.2	3.5	2.7	2.5	1.4
19. Do you NOT have at least one adult you can talk to about your feelings?	25 (5.9%)	1.8	3.4	2.0	3.0	1.3		3.0	2.5	2.5	8.2
20. Are you NOT happy with your eating habits and your weight?	125 (29.9%)	1.7	2.3	1.6	1.7	1.5	3.0		1.3	1.5	1.6
21. (Y/N) Do you drink at least one sweet drink each day?	390 (91.6%)	2.4	0.6	2.1	1.3	0.9		1.8	2.2	2.9	3.9
22. (Y/N) Do you eat fast food at least once a week?	374 (87.8%)	1.1	0.8	1.2	0.9	0.8	1.6	1.2	1.1	1.3	1.8
23. Have you tried vomiting, diet pills, laxatives or starving to lose weight, or do you eat in secret?	18 (4.2%)	2.0	2.1	2.6	2.7	2.7	0.9	6.1	1.5	2.0	1.3
24. Have you or your friends ever been in trouble with the law?	106 (24.9%)	0.7	1.0	1.8	2.0	3.1	2.5	1.3		2.6	5.9
25. Are gangs a part of your life now or in the past?	23 (5.4%)	0.4	1.8	2.1	1.7	4.8	7.5	1.3	10.0	2.8	8.0
26. Have you ever dropped out of school or been suspended in the past year?	51 (12.3%)	2.1	0.6	2.4	1.4	1.8	2.7	1.1	8.5	3.7	5.6
27. (Y/N) Do you NOT usually get grades of A's or B's?	162 (39.4%)	1.5	1.3	1.2	1.3	1.9	2.5	1.5	2.6		2.2
29. Do you NOT work?	359 (88.6%)	1.3	1.0	1.0	0.6	1.6	0.4	1.0	1.4	1.4	0.3
31. (Y/N) Do you smoke occasionnally/regularly?	40 (9.4%)	1.6	0.9	4.0	2.2	3.3	8.2	1.6	5.9	2.2	
32. (Y/N) Do you drink alcohol 'regularly'?	13 (3.1%)	1.4	2.7	3.9	0.4	2.1	12.2	0.8	4.5	2.8	19.7
34. Does anyone in your family have a problem with alcohol or drug abuse?	68 (16.3%)	1.0	2.2	1.5	1.4	2.8	2.6	1.1	1.8	1.6	4.2
35. (Y/N) Have you ever smoked pot?	63 (14.9%)	1.6	1.4	2.0	2.7	4.9	6.2	1.7	3.8	3.6	13.2
36. Have you tried other drugs?	20 (4.8%)	1.6	2.5	2.1	0.8	1.8	12.7	3.4	2.3	3.9	17.3
37. (Y/N) Are you G,L,B or T? (not sure=missing)	22 (5.4%)	2.6	0.8	1.9	3.1	3.5	7.6	2.1	1.9	4.4	5.5
38. Do you have a current boyfriend/girlfriend?	115 (27.3%)	1.1	1.3	1.4	2.1	1.1	3.8	1.1	3.0	1.6	6.3

*BLANK IF A CROSS-TAB VALUE WAS (0)	YES (#)	Not exercise enough	Dizzy During Exercise	Breathing Trouble	Chest pain after Exercise	Foster/group /shelter (56)	No Adult to Talk To	Not happy weight	Law Trouble	Bad Grades	Smoke Cigarettes
39. (Y/N) Have you had sex before. If not sure, 'no'.	**132 (31.1%)**	**0.8**	**1.3**	**1.8**	**2.4**	**2.1**	**3.3**	**1.2**	**3.0**	**1.9**	**15.9**
40. Do you NOT always use condoms during sex?	**18 (17.8%)**	**1.3**	**1.8**	**0.9**	**0.9**	**2.5**	**4.9**	**1.4**	**0.8**	**0.7**	**0.7**
41. Do you NOT use birth control besides condoms?	**82 (64.1%)**	**0.8**	**0.6**	**0.6**	**0.5**	**0.6**	**0.8**	**0.9**	**1.5**	**1.3**	**0.8**
42. Have you ever been raped (includes "date rape") or pressured to have sex when you didn't want to?	26 (6.4%)	**1.0**	**1.5**	**2.4**	**2.3**	**5.1**	**6.1**	**1.8**	**2.8**	**1.2**	**4.0**
43. (Y/N) Have you/your partner ever been pregnant?	18 (4.5%)	**2.2**	**2.3**	**2.0**	**1.9**	**2.8**	**1.0**	**3.3**	**1.6**	**1.8**	**6.2**
44. (Y/N) Have you ever been treated for an STI? (u=.)	26 (6.4%)	**2.6**	**1.5**	**3.9**	**4.7**	**4.5**	**3.3**	**3.2**	**5.0**	**1.5**	**21.2**
45. During the past month, have you been under a lot of stress?	**130 (30.8%)**	**1.4**	**3.1**	**1.9**	**1.7**	**1.8**	**3.7**	**3.8**	**2.5**	**1.5**	**4.7**
46. During the past 2 weeks, have you NOT had fun?	**60 (14.3%)**	**1.6**	**2.1**	**1.3**	**1.3**	**1.6**	**4.6**	**1.7**	**1.2**	**1.9**	**1.4**
47. Do you have problems with your sleep or being tired often?	**144 (34.0%)**	**2.0**	**4.4**	**2.3**	**2.4**	**1.8**	**3.2**	**4.0**	**1.8**	**2.1**	**3.5**
48. During the past month, have you often felt sad, down, or as though you had nothing to look forward to?	**97 (22.9%)**	**1.5**	**4.5**	**1.9**	**2.7**	**1.2**	**7.2**	**3.5**	**1.7**	**1.7**	**2.2**
49. Have you ever seriously thought about killing yourself, threatened, or actually attempted suicide?	24 (5.7%)	**2.8**	**1.5**	**2.5**	**2.0**	**2.9**	**2.6**	**3.9**	**3.2**	**2.8**	**1.4**
50. Have you ever been physically, sexually, or emotionally abused?	25 (5.9%)	**1.1**	**1.6**	**4.5**	**4.2**	**7.6**	**3.4**	**2.1**	**3.6**	**1.9**	**4.3**
51. Have you been in a fight or been assaulted in the past 3 months?	41 (9.6%)	**1.4**	**1.4**	**1.9**	**0.8**	**2.4**	**11.8**	**1.7**	**5.8**	**3.8**	**6.2**
52. Do you ever need to carry a weapon?	11 (2.6%)	**0.9**	**0.4**	**1.8**	**2.8**	**2.6**	**3.8**	**3.0**	**8.5**	**1.6**	**2.2**
53. Have you had a close personal friend die of gang-related violence this past year?	33 (7.8%)	**1.1**	**2.6**	**1.2**	**1.1**	**2.0**	**1.0**	**1.4**	**3.8**	**2.4**	**6.3**
Do you identify as the male sex?	***188 (43.9%)***	**0.3**	**0.5**	**0.6**	**0.5**	**1.4**	**1.2**	**0.4**	**1.9**	**1.8**	**0.8**
AGE category (16-18)?	***163 (38.1%)***	**0.8**	**1.2**	**1.0**	**1.2**	**0.9**	**0.9**	**1.0**	**1.6**	**1.2**	**2.7**
Hispanic Vs. not-Hispanic	**240 (56.1%)**	**1.1**	**0.7**	**0.6**	**0.6**	**0.5**	**1.4**	**1.4**	**0.5**	**1.1**	**1.2**
Black vs. not-Black	**155 (36.2%)**	**0.9**	**1.1**	**1.3**	**1.3**	**1.2**	**0.7**	**0.7**	**1.6**	**1.0**	**0.8**
*BLANK IF A CROSS-TAB VALUE WAS (0)	YES (#)	Not exercise enough	Dizzy During Exercise	Breathing Trouble	Chest pain after Exercise	Foster/group /shelter (56)	No Adult to Talk To	Not happy weight	Law Trouble	Bad Grades	Smoke Cigarettes

Appendix 7, Chart 1, Pg.1. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

	Q1hosp	Q2meds	Q3nodent	Q4sheljail	Q5mex	Q6noexer	Q7diz	Q7b_pasdout	Q8conc	Q
Q1hosp	1hosp	68.5%	## 61.2%	70.6%	6.8%	53.3%	63.8%	62.6%	69.9%	
Q2meds	68.5%	2meds	## 62.1%	80.1%	72.2%	56.3%	68.9%	70.6%	74.3%	
Q3nodent	61.2%	62.1%	3nodent	67.8%	64.0%	55.1%	62.1%	61.0%	64.3%	
Q4sheljail	70.6%	80.1%	## 67.8%	4sheljail	84.6%	60.3%	73.1%	82.2%	84.6%	
Q5mex	68.9%	72.2%	## 64.0%	84.6%	5mex	57.5%	70.6%	74.3%	77.8%	
Q6noexer	53.3%	56.3%	## 55.1%	60.3%	57.5%	6noexer	52.6%	54.4%	54.9%	
Q7diz	63.8%	68.9%	## 62.1%	73.1%	70.6%	52.6%	7diz	68.9%	71.5%	
Q7b_pasdou	62.6%	70.6%	## 61.0%	82.2%	74.3%	54.4%	68.9%	7b_pasdout	78.0%	
Q8conc	69.9%	74.3%	## 64.3%	84.6%	77.8%	54.9%	71.5%	78.0%	8conc	
Q9breathtro	65.7%	72.2%	## 62.6%	73.8%	66.6%	59.1%	69.9%	65.7%	70.8%	
Q10chest	70.6%	73.1%	## 63.8%	79.2%	73.1%	59.6%	72.7%	71.5%	77.3%	
Q11heart	71.5%	78.0%	## 66.6%	86.2%	79.4%	59.3%	74.1%	78.0%	84.8%	
Q12dieb455	56.1%	56.8%	## 54.9%	61.2%	59.1%	49.3%	56.8%	54.2%	59.8%	
Q13notallgs	40.0%	37.1%	## 41.4%	33.9%	33.9%	43.9%	38.6%	28.3%	35.7%	
Q14nobike	54.9%	62.1%	## 60.7%	66.4%	64.5%	53.0%	59.1%	61.4%	65.0%	
Q14nohelme	33.4%	28.5%	## 33.9%	26.9%	27.8%	34.6%	31.3%	29.0%	26.2%	
Q15seatb	70.1%	79.0%	## 67.8%	91.1%	84.1%	58.2%	75.9%	82.9%	85.3%	
Q17shelfost	65.0%	75.7%	## 64.0%	85.0%	75.9%	58.4%	68.0%	74.5%	79.2%	
Q18nothapfa	69.9%	75.5%	## 66.8%	87.9%	83.6%	58.6%	74.3%	80.6%	84.6%	
Q19noadult	69.9%	78.3%	## 67.8%	89.5%	83.6%	60.0%	75.9%	80.6%	83.9%	
Q20nohweig	50.9%	58.2%	## 50.2%	65.9%	61.4%	45.3%	57.2%	65.0%	61.7%	
Q21swdrink_	31.3%	24.1%	## 33.2%	12.6%	16.1%	43.0%	21.0%	10.0%	16.8%	
Q22ff_yn	31.3%	25.9%	## 32.9%	15.9%	21.3%	41.1%	23.6%	11.9%	19.4%	
Q23losew	70.8%	77.8%	## 68.9%	90.9%	84.1%	60.5%	75.9%	81.5%	86.2%	
Q24lawtroub	65.4%	69.6%	## 59.3%	72.7%	66.6%	50.7%	61.7%	64.5%	72.0%	
Q25gangs	70.6%	78.0%	## 65.7%	89.7%	83.2%	56.3%	74.8%	82.0%	86.4%	
Q26dropout	66.4%	72.9%	## 61.9%	82.0%	75.5%	59.6%	67.5%	74.1%	75.2%	
Q27GradesB	48.4%	55.6%	## 51.4%	59.3%	52.8%	54.0%	54.2%	52.8%	56.1%	
Q29nowork	30.1%	25.5%	## 29.9%	14.0%	18.7%	40.0%	23.6%	12.6%	17.5%	
Q31smoke_y	70.8%	77.1%	## 68.5%	88.3%	79.9%	60.0%	71.5%	78.3%	82.7%	
Q32alcoholD	70.8%	79.2%	## 68.7%	92.1%	85.5%	59.6%	75.9%	83.4%	85.3%	
Q34famdrug	64.3%	72.7%	## 61.4%	79.4%	72.4%	55.1%	69.4%	71.5%	76.2%	
Q35potD	67.3%	72.0%	## 64.7%	81.8%	75.2%	58.9%	68.7%	73.4%	78.3%	
Q36odrugs	68.5%	75.5%	## 65.9%	87.4%	81.8%	57.7%	72.9%	79.2%	82.9%	
Q37GLBT_yn	67.1%	75.0%	## 64.3%	86.9%	79.4%	58.2%	70.8%	77.6%	81.1%	
Q38bfgf	62.1%	65.7%	## 60.3%	70.1%	63.3%	54.4%	61.7%	63.1%	68.5%	
Q39sexYN	63.1%	64.3%	## 60.0%	67.8%	61.9%	54.9%	60.3%	60.0%	66.1%	
Q40safesx	14.3%	15.4%	## 16.1%	17.1%	18.0%	13.6%	20.1%	25.5%	17.5%	
Q41nobcont	12.9%	11.7%	## 15.2%	11.2%	12.1%	14.5%	14.0%	16.1%	10.7%	
Q42pressex	67.3%	75.2%	## 63.6%	85.3%	79.4%	56.3%	71.7%	77.3%	81.1%	
Q43preg	67.3%	73.4%	## 64.3%	86.9%	79.2%	57.2%	72.0%	77.6%	81.1%	
Q44STItest	66.8%	75.9%	## 64.7%	85.5%	78.3%	58.4%	71.3%	77.1%	79.7%	
Q45stress	60.3%	65.7%	## 59.1%	67.1%	63.6%	56.3%	65.9%	58.4%	67.5%	
Q46nofun	64.0%	72.0%	## 62.9%	82.2%	76.2%	58.4%	70.6%	72.2%	75.2%	
Q47insomnia	60.5%	64.5%	## 60.0%	64.5%	60.5%	59.6%	66.6%	57.9%	61.2%	
Q48sad	63.3%	68.5%	## 62.4%	73.1%	69.9%	58.2%	72.4%	66.6%	69.9%	
Q49suic_n	71.3%	76.6%	## 67.5%	89.3%	82.9%	61.2%	74.8%	80.8%	84.8%	
Q50abused	69.9%	78.5%	## 65.0%	89.3%	82.7%	58.4%	74.1%	79.4%	84.3%	
Q51fightaslt	67.8%	75.7%	## 67.3%	87.4%	81.8%	59.3%	72.7%	76.9%	79.4%	
Q52weapon	70.3%	79.2%	## 68.5%	92.3%	86.7%	59.1%	75.2%	82.9%	86.2%	
Q53fdingang	68.2%	76.9%	## 65.9%	88.6%	81.1%	58.2%	75.2%	79.4%	82.7%	
	Q1hosp	Q2meds	Q3nodent	Q4sheljail	Q5mex	Q6noexer	Q7diz	Q7b_pasdout	Q8conc	C
Count of Variables Variable has > 90% agreement				**4**	**0**	**0**	**0**	**0**	**0**	
Average Tota	60.2%	64.9%	58.4%	71.2%	65.4%	53.5%	62.7%	64.6%	68.0%	

Appendix 7, Chart 1, Pg.2. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

Q9breathtroub	Q10chest	Q11heart	Q12dieb455	Q13notallgs	Q14nobike	Q14nohelmet	Q15seatb	Q17shelfost	C
65.7%	70.6%	71.5%	56.1%	40.0%	54.9%	33.4%	70.1%	65.0%	
72.2%	73.1%	78.0%	56.8%	37.1%	62.1%	28.5%	79.0%	75.7%	
62.6%	63.8%	66.6%	54.9%	41.4%	60.7%	33.9%	67.8%	64.0%	
73.8%	79.2%	86.2%	61.2%	33.9%	66.4%	26.9%	91.1%	85.0%	
66.6%	73.1%	79.4%	59.1%	33.9%	64.5%	27.8%	84.1%	75.9%	
59.1%	59.6%	59.3%	49.3%	43.9%	53.0%	34.6%	58.2%	58.4%	
69.9%	72.7%	74.1%	56.8%	38.6%	59.1%	31.3%	75.9%	68.0%	
65.7%	71.5%	78.0%	54.2%	28.3%	61.4%	29.0%	82.9%	74.5%	
70.8%	77.3%	84.8%	59.8%	35.7%	65.0%	26.2%	85.3%	79.2%	
9breathtroub	84.3%	76.2%	60.0%	41.8%	57.5%	30.8%	73.1%	70.8%	
84.3%	10chest	82.5%	59.6%	38.6%	61.2%	29.0%	80.1%	73.8%	
76.2%	82.5%	11heart	60.0%	34.8%	64.3%	27.3%	87.6%	79.9%	
60.0%	59.6%	60.0%	12dieb455	48.6%	55.8%	36.4%	60.5%	59.3%	
41.8%	38.6%	34.8%	48.6%	13notallgs	38.8%	38.8%	30.8%	36.0%	
57.5%	61.2%	64.3%	55.8%	38.8%	14nobike	27.6%	67.3%	62.6%	
30.8%	29.0%	27.3%	36.4%	38.8%	27.6%	14nohelmet	28.5%	27.3%	
73.1%	80.1%	87.6%	60.5%	30.8%	67.3%	28.5%	15seatbelt	83.6%	
70.8%	73.8%	79.9%	59.3%	38.3%	62.6%	27.3%	83.6%	17shelfost	
71.5%	79.2%	86.4%	58.9%	33.2%	65.4%	28.0%	91.6%	82.0%	
73.6%	80.6%	86.2%	61.7%	32.9%	66.4%	29.2%	91.6%	82.5%	
54.4%	59.8%	63.8%	44.9%	23.4%	48.6%	26.6%	65.7%	60.5%	
30.4%	23.4%	16.1%	39.5%	61.7%	31.3%	44.4%	11.7%	19.2%	
31.1%	24.8%	18.2%	40.4%	61.9%	31.5%	46.5%	15.2%	21.5%	
74.5%	80.8%	87.9%	60.0%	32.7%	68.0%	26.4%	91.6%	84.6%	
66.4%	69.6%	72.7%	59.6%	41.8%	56.5%	33.6%	72.9%	73.4%	
73.6%	79.2%	86.2%	60.5%	32.7%	67.5%	27.6%	90.4%	84.8%	
70.3%	72.9%	79.0%	59.3%	33.9%	59.6%	29.4%	82.7%	76.6%	
54.9%	56.5%	55.6%	49.3%	42.5%	50.5%	37.4%	58.6%	58.9%	
28.5%	21.7%	17.3%	33.2%	58.9%	32.9%	43.0%	13.8%	21.0%	
75.7%	78.7%	82.9%	63.1%	36.7%	66.4%	27.3%	87.1%	82.9%	
75.2%	79.2%	87.6%	60.7%	32.7%	67.8%	27.8%	92.5%	84.8%	
67.3%	71.7%	76.4%	61.7%	39.0%	60.5%	29.0%	78.5%	76.9%	
70.3%	76.2%	77.1%	59.6%	37.1%	63.6%	28.7%	82.0%	81.1%	
71.0%	76.2%	84.1%	59.6%	31.8%	66.4%	27.6%	89.3%	81.5%	
70.8%	77.8%	83.2%	59.8%	31.3%	64.0%	27.3%	86.9%	81.1%	
62.6%	68.2%	67.8%	54.0%	44.9%	55.4%	30.4%	71.7%	66.4%	
63.3%	67.3%	64.7%	57.5%	45.6%	60.7%	29.4%	66.1%	67.1%	
14.3%	15.0%	19.2%	12.4%	9.3%	17.5%	30.6%	19.9%	17.8%	
12.1%	11.4%	12.4%	14.7%	17.5%	14.3%	29.0%	12.1%	11.2%	
70.8%	76.4%	82.5%	57.9%	32.2%	62.9%	28.0%	86.2%	81.5%	
70.3%	75.7%	81.3%	59.3%	32.0%	64.0%	27.6%	85.7%	80.8%	
71.5%	77.8%	80.8%	59.8%	33.4%	64.7%	27.6%	86.0%	81.3%	
64.0%	64.7%	67.3%	57.7%	44.4%	58.2%	32.0%	65.2%	66.1%	
68.0%	72.7%	79.0%	59.1%	36.2%	63.1%	30.4%	81.5%	75.9%	
64.3%	65.4%	63.8%	55.6%	45.8%	54.0%	32.7%	64.7%	64.0%	
67.3%	72.7%	73.6%	58.6%	38.8%	58.6%	32.5%	74.1%	69.9%	
73.8%	79.4%	87.1%	60.0%	32.7%	64.7%	27.1%	89.5%	83.6%	
75.2%	80.8%	86.4%	58.9%	33.2%	63.8%	27.8%	88.8%	85.5%	
72.4%	75.5%	81.5%	60.3%	32.9%	65.2%	28.0%	86.9%	81.5%	
74.1%	81.3%	88.3%	60.5%	31.5%	68.7%	26.6%	92.8%	85.0%	
71.3%	77.1%	82.9%	61.0%	34.3%	65.9%	28.3%	88.8%	82.0%	
Q9breathtroub	Q10chest	Q11heart	Q12dieb455	Q13notallgs	Q14nobike	Q14nohelmet	Q15seatb	Q17shelfost	C
0	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	
63.1%	66.4%	69.4%	54.6%	37.0%	57.0%	30.5%	71.4%	67.8%	

Appendix 7, Chart 1, Pg.3. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

Q18nothapfam	Q19noadultt	Q20nohweigh	Q21swdrink_y	Q22ff_yn	Q23losew	Q24lawtroub	Q25gangs	Q26dropout	Q
69.9%	69.9%	50.9%	31.3%	31.3%	70.8%	65.4%	70.6%	66.4%	
75.5%	78.3%	58.2%	24.1%	25.9%	77.8%	69.6%	78.0%	72.9%	
66.8%	67.8%	50.2%	33.2%	32.9%	68.9%	59.3%	65.7%	61.9%	
87.9%	89.5%	65.9%	12.6%	15.9%	90.9%	72.7%	89.7%	82.0%	
83.6%	83.6%	61.4%	16.1%	21.3%	84.1%	66.6%	83.2%	75.5%	
58.6%	60.0%	45.3%	43.0%	41.1%	60.5%	50.7%	56.3%	59.6%	
74.3%	75.9%	57.2%	21.0%	23.6%	75.9%	61.7%	74.8%	67.5%	
80.6%	80.6%	65.0%	10.0%	81.5%	64.5%	82.0%	82.0%	74.1%	
84.6%	83.9%	61.7%	16.8%	19.4%	86.2%	72.0%	86.4%	75.2%	
71.5%	73.6%	54.4%	30.4%	31.1%	74.5%	66.4%	73.6%	70.3%	
79.2%	80.6%	59.8%	23.4%	24.8%	80.8%	69.6%	79.2%	72.9%	
86.4%	86.2%	63.8%	16.1%	18.2%	87.9%	72.7%	86.2%	79.0%	
58.9%	61.7%	44.9%	39.5%	40.4%	60.0%	59.6%	60.5%	59.3%	
33.2%	32.9%	23.4%	61.7%	61.9%	32.7%	41.8%	32.7%	33.9%	
65.4%	66.4%	48.6%	31.3%	31.5%	68.0%	56.5%	67.5%	59.6%	
28.0%	29.2%	26.6%	44.4%	46.5%	26.4%	33.6%	27.6%	29.4%	
91.6%	91.6%	65.7%	11.7%	15.2%	91.6%	72.9%	90.4%	82.7%	
82.0%	82.5%	60.5%	19.2%	21.5%	84.6%	73.4%	84.8%	76.6%	
18nothapfam	90.4%	65.2%	12.9%	16.1%	89.0%	72.4%	89.7%	79.0%	
90.4%	19noadult	65.9%	14.3%	17.1%	89.5%	73.4%	90.7%	81.8%	
65.2%	65.9%	20nohw	9.3%	11.4%	67.1%	53.5%	64.7%	59.3%	
12.9%	14.3%	9.3%	21swdrink	86.2%	12.6%	30.8%	13.8%	20.1%	
16.1%	17.1%	11.4%	86.2%	22ff	15.4%	31.1%	17.3%	22.2%	
89.0%	89.5%	67.1%	12.6%	15.4%	23losew	72.7%	90.7%	81.8%	
72.4%	73.4%	53.5%	30.8%	31.1%	72.7%	24law	77.8%	76.4%	
89.7%	90.7%	64.7%	13.8%	17.3%	90.7%	77.8%	25gangs	81.1%	
79.0%	81.8%	59.3%	20.1%	22.2%	81.8%	76.4%	81.1%	26Drop	
58.2%	59.1%	43.9%	43.0%	41.6%	58.4%	61.0%	59.1%	60.7%	
15.4%	13.6%	10.5%	76.4%	72.9%	13.8%	30.4%	14.5%	19.4%	
85.0%	89.0%	63.6%	17.3%	20.1%	87.4%	76.6%	89.0%	82.7%	
89.7%	92.3%	66.8%	11.4%	15.0%	91.8%	74.5%	91.8%	84.3%	
78.5%	79.4%	57.5%	19.9%	23.6%	79.4%	68.2%	80.8%	74.8%	
81.5%	83.4%	59.3%	20.8%	24.3%	80.8%	73.4%	84.3%	77.3%	
87.6%	89.5%	65.0%	11.9%	15.9%	89.0%	71.7%	88.8%	80.4%	
85.3%	87.4%	65.7%	12.4%	16.1%	86.7%	70.6%	86.2%	79.9%	
69.6%	72.2%	49.8%	32.5%	33.2%	69.2%	68.9%	71.5%	69.6%	
65.7%	68.7%	49.3%	36.0%	36.0%	68.5%	67.8%	68.7%	68.0%	
19.2%	19.6%	34.3%	5.4%	5.1%	17.8%	12.1%	17.8%	16.8%	
11.9%	11.9%	26.9%	19.4%	18.9%	10.5%	15.4%	12.1%	14.3%	
84.6%	86.2%	63.8%	14.3%	17.3%	86.2%	70.8%	86.7%	78.5%	
83.9%	85.0%	66.1%	12.4%	15.2%	86.9%	69.4%	86.0%	78.0%	
81.5%	84.8%	63.6%	13.8%	16.4%	85.3%	71.7%	84.3%	79.7%	
68.5%	69.2%	54.0%	34.1%	34.6%	67.8%	65.9%	67.5%	65.2%	
79.9%	82.5%	59.8%	21.3%	23.4%	82.2%	67.1%	80.8%	77.1%	
65.7%	66.4%	53.0%	38.3%	37.4%	65.2%	61.9%	66.4%	64.0%	
74.8%	78.0%	58.2%	27.8%	28.7%	76.2%	66.1%	74.5%	71.3%	
88.6%	89.0%	65.9%	13.6%	15.9%	91.8%	73.8%	90.4%	82.2%	
87.1%	88.6%	65.4%	14.0%	18.0%	90.2%	73.8%	90.0%	81.5%	
86.2%	89.5%	63.3%	17.5%	19.9%	86.9%	76.4%	89.3%	82.0%	
90.7%	91.6%	67.5%	11.0%	14.7%	92.8%	75.2%	91.8%	83.2%	
87.1%	86.4%	63.1%	15.2%	18.9%	88.3%	74.5%	90.7%	81.1%	
Q18nothapfam	Q19noadultt	Q20nohweigh	Q21swdrink_y	Q22ff_yn	Q23losew	Q24lawtroub	Q25gangs	Q26dropout	C
3	**5**	**0**	**0**	**0**	**7**	**0**	**7**	**0**	
70.4%	71.6%	53.9%	24.5%	27.7%	71.2%	63.4%	71.6%	67.1%	

Appendix 7, Chart 1, Pg.4. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

27GradesBad	Q29nowork	Q31smoke_yn	Q32alcoholD	Q34famdrug	Q35potD	Q36odrugs	GLBT_yn	Q38bfgf	C
48.4%	30.1%	70.8%	70.8%	64.3%	67.3%	68.5%	67.1%	62.1%	
55.6%	25.5%	77.1%	79.2%	72.7%	72.0%	75.5%	75.0%	65.7%	
51.4%	29.9%	68.5%	68.7%	61.4%	64.7%	65.9%	64.3%	60.3%	
59.3%	14.0%	88.3%	92.1%	79.4%	81.8%	87.4%	86.9%	70.1%	
52.8%	18.7%	79.9%	85.5%	72.4%	75.2%	81.8%	79.4%	63.3%	
54.0%	40.0%	60.0%	59.6%	55.1%	58.9%	57.7%	58.2%	54.4%	
54.2%	23.6%	71.5%	75.9%	69.4%	68.7%	72.9%	70.8%	61.7%	
52.8%	12.6%	78.3%	83.4%	71.5%	73.4%	79.2%	77.6%	63.1%	
56.1%	17.5%	82.7%	85.3%	76.2%	78.3%	82.9%	81.1%	68.5%	
54.9%	28.5%	75.7%	75.2%	67.3%	70.3%	71.0%	70.8%	62.6%	
56.5%	21.7%	78.7%	79.2%	71.7%	76.2%	76.2%	77.8%	68.2%	
55.6%	17.3%	82.9%	87.6%	76.4%	77.1%	84.1%	83.2%	67.8%	
49.3%	33.2%	63.1%	60.7%	61.7%	59.6%	59.6%	59.8%	54.0%	
42.5%	58.9%	36.7%	32.7%	39.0%	37.1%	31.8%	31.3%	44.9%	
50.5%	32.9%	66.4%	67.8%	60.5%	63.6%	66.4%	64.0%	55.4%	
37.4%	43.0%	27.3%	27.8%	29.0%	28.7%	27.6%	27.3%	30.4%	
58.6%	13.8%	87.1%	92.5%	78.5%	82.0%	89.3%	86.9%	71.7%	
58.9%	21.0%	82.9%	84.8%	76.9%	83.4%	81.5%	81.1%	66.4%	
58.2%	15.4%	85.0%	89.7%	78.5%	81.5%	87.6%	85.3%	69.6%	
59.1%	13.6%	89.0%	92.3%	79.4%	83.4%	89.5%	87.4%	72.2%	
43.9%	10.5%	63.6%	66.8%	57.5%	59.3%	65.0%	65.7%	49.8%	
43.0%	76.4%	17.3%	11.4%	19.9%	20.8%	11.9%	12.4%	32.5%	
41.6%	72.9%	20.1%	15.0%	23.6%	24.3%	15.9%	16.1%	33.2%	
58.4%	13.8%	87.4%	91.8%	79.4%	80.8%	89.0%	86.7%	69.2%	
61.0%	30.4%	76.6%	74.5%	68.2%	73.4%	71.7%	70.6%	68.9%	
59.1%	14.5%	89.0%	91.8%	80.8%	84.3%	88.8%	86.2%	71.5%	
60.7%	19.4%	82.7%	84.3%	74.8%	77.3%	80.4%	79.9%	69.6%	
27Grades	40.4%	59.3%	58.4%	56.8%	61.9%	57.9%	57.9%	56.5%	
40.4%	29nowork	15.2%	12.4%	23.4%	19.2%	13.3%	12.6%	25.0%	
59.3%	15.2%	31smoke	90.9%	79.9%	86.0%	88.6%	84.8%	74.5%	
58.4%	12.4%	90.9%	32alcohol	81.5%	86.2%	91.8%	87.9%	72.7%	
56.8%	23.4%	79.9%	81.5%	34famdrug	78.0%	57.2%	76.2%	66.8%	
61.9%	19.2%	86.0%	86.2%	78.0%	35 pot	82.2%	79.7%	69.4%	
57.9%	13.3%	88.6%	91.8%	57.2%	82.2%	36 o drugs	86.4%	70.3%	
57.9%	12.6%	84.8%	87.9%	76.2%	79.7%	86.4%	37 GLBT	70.8%	
56.5%	25.0%	74.5%	72.7%	66.8%	69.4%	70.3%	70.8%	38bfgf	
58.4%	29.2%	74.5%	69.2%	65.4%	73.1%	66.6%	67.3%	69.4%	
12.9%	8.4%	15.0%	19.2%	16.4%	16.1%	19.2%	21.7%	13.6%	
15.2%	21.0%	12.4%	11.4%	14.0%	14.5%	11.7%	14.0%	15.4%	
54.9%	15.7%	83.6%	86.9%	76.9%	78.7%	84.3%	83.9%	68.9%	
56.3%	12.1%	84.8%	88.3%	76.4%	78.7%	85.3%	82.2%	67.5%	
55.8%	14.0%	87.1%	87.6%	77.8%	80.6%	84.8%	83.4%	69.9%	
55.4%	32.5%	70.8%	68.7%	66.6%	67.1%	67.3%	66.1%	62.1%	
58.2%	20.8%	78.5%	82.0%	73.4%	74.1%	78.5%	78.3%	64.7%	
58.4%	34.1%	67.3%	65.9%	64.3%	64.7%	65.2%	63.6%	60.3%	
57.7%	26.4%	74.1%	75.7%	70.3%	68.9%	74.1%	87.4%	87.1%	
59.6%	15.4%	85.7%	90.4%	78.3%	80.6%	87.4%	88.3%	69.6%	
58.4%	15.0%	86.9%	90.2%	80.4%	81.8%	87.1%	87.1%	70.1%	
61.4%	18.0%	86.9%	89.0%	78.7%	82.7%	86.4%	83.2%	68.5%	
57.9%	12.1%	88.6%	**94.2%**	80.8%	82.9%	89.5%	87.6%	69.6%	
59.3%	16.6%	87.6%	89.5%	79.9%	82.5%	85.3%	83.6%	71.7%	
)27GradesBa	Q29nowork	Q31smoke_yn	Q32alcoholD	Q34famdrug	Q35potD	Q36odrugs	GLBT_yn	Q38bfgf	C
0	**0**	**1**	**10**	**0**	**0**	**1**	**0**	**0**	
53.3%	24.0%	71.0%	72.3%	65.3%	67.9%	69.6%	69.3%	61.2%	

Appendix 7, Chart 1, Pg.5. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

Q39sexYN	Q40safesx	Q41nobcontrl	Q42pressex	Q43preg_yn	Q44STItest	Q45Stress_n	Q46Nofun	Q47insom_n	C
63.1%	14.3%	12.9%	67.3%	67.3%	66.8%	60.3%	64.0%	60.5%	
64.3%	15.4%	11.7%	75.2%	73.4%	75.9%	65.7%	72.0%	64.5%	
60.0%	16.1%	15.2%	63.6%	64.3%	64.7%	59.1%	62.9%	60.0%	
67.8%	17.1%	11.2%	85.3%	86.9%	85.5%	67.1%	82.2%	64.5%	
61.9%	18.0%	12.1%	79.4%	79.2%	78.3%	63.6%	76.2%	60.5%	
54.9%	13.6%	14.5%	56.3%	57.2%	58.4%	56.3%	58.4%	59.6%	
60.3%	20.1%	14.0%	71.7%	72.0%	71.3%	65.9%	70.6%	66.6%	
60.0%	25.5%	16.1%	77.3%	77.6%	77.1%	58.4%	72.2%	57.9%	
66.1%	17.5%	10.7%	81.1%	81.1%	79.7%	67.5%	75.2%	61.2%	
63.3%	14.3%	12.1%	70.8%	70.3%	71.5%	64.0%	68.0%	64.3%	
67.3%	15.0%	11.4%	76.4%	75.7%	77.8%	64.7%	72.7%	65.4%	
64.7%	19.2%	12.4%	82.5%	81.3%	80.8%	67.3%	79.0%	63.8%	
57.5%	12.4%	14.7%	57.9%	59.3%	59.8%	57.7%	59.1%	55.6%	
45.6%	9.3%	17.5%	32.2%	32.0%	33.4%	44.4%	36.2%	45.8%	
60.7%	15.2%	14.3%	62.9%	64.0%	64.7%	58.2%	63.1%	54.0%	
29.4%	30.6%	29.0%	28.0%	27.6%	27.6%	32.0%	30.4%	32.7%	
66.1%	19.9%	12.1%	86.2%	85.7%	86.0%	65.2%	81.5%	64.7%	
67.1%	17.8%	11.2%	81.5%	80.8%	81.3%	66.1%	75.9%	64.0%	
65.7%	19.2%	11.9%	84.6%	83.9%	81.5%	68.5%	79.9%	65.7%	
68.7%	19.6%	11.9%	86.2%	85.0%	84.8%	69.2%	82.5%	66.4%	
49.3%	34.3%	26.9%	63.8%	66.1%	63.6%	54.0%	59.8%	53.0%	
36.0%	5.4%	19.4%	14.3%	12.4%	13.8%	34.1%	21.3%	38.3%	
36.0%	5.1%	18.9%	17.3%	15.2%	16.4%	34.6%	23.4%	37.4%	
68.5%	17.8%	10.5%	86.2%	86.9%	85.3%	67.8%	82.2%	65.2%	
67.8%	12.1%	15.4%	70.8%	69.4%	71.7%	65.9%	67.1%	61.9%	
68.7%	17.8%	12.1%	86.7%	86.0%	84.3%	67.5%	80.8%	66.4%	
68.0%	16.8%	14.3%	78.5%	78.0%	79.7%	65.2%	77.1%	64.0%	
58.4%	12.9%	15.2%	54.9%	56.3%	55.8%	55.4%	58.2%	58.4%	
29.2%	8.4%	21.0%	15.7%	12.1%	14.0%	32.5%	20.8%	34.1%	
74.5%	15.0%	12.4%	83.6%	84.8%	87.1%	70.8%	78.5%	67.3%	
69.2%	19.2%	11.4%	86.9%	88.3%	87.6%	68.7%	82.0%	65.9%	
65.4%	16.4%	14.0%	76.9%	76.4%	77.8%	66.6%	73.4%	64.3%	
73.1%	16.1%	14.5%	78.7%	78.7%	80.6%	67.1%	74.1%	64.7%	
66.6%	19.2%	11.7%	84.3%	85.3%	84.8%	67.3%	78.5%	65.2%	
67.3%	21.7%	14.0%	83.9%	82.2%	83.4%	66.1%	78.3%	63.6%	
69.4%	13.6%	15.4%	68.9%	67.5%	69.9%	62.1%	64.7%	60.3%	
39sexYN	6.3%	18.0%	66.6%	68.5%	70.8%	65.9%	62.9%	59.6%	
6.3%	Q40safesx	77.6%	22.2%	19.6%	19.4%	12.1%	17.3%	13.6%	
18.0%	77.6%	Q41nobcon	14.7%	12.6%	11.7%	12.4%	11.2%	12.1%	
66.6%	22.2%	14.7%	42pressex	83.2%	83.2%	68.0%	79.4%	63.1%	
68.5%	19.6%	12.6%	83.2%	43preg	87.1%	67.1%	78.7%	62.6%	
70.8%	19.4%	11.7%	83.2%	87.1%	44 STI	69.4%	78.0%	65.7%	
65.9%	12.1%	12.4%	68.0%	67.1%	69.4%	45_stress	71.0%	70.6%	
62.9%	17.3%	11.2%	79.4%	78.7%	78.0%	71.0%	46nofun	66.4%	
59.6%	13.6%	12.1%	63.1%	62.6%	65.7%	70.6%	66.4%	47insom	
63.6%	15.7%	14.0%	73.1%	72.9%	72.4%	77.1%	14.0%	75.0%	
68.0%	19.4%	12.1%	87.4%	85.7%	83.9%	70.6%	81.8%	67.1%	
68.9%	21.0%	12.4%	90.2%	86.0%	85.5%	69.9%	81.3%	65.9%	
70.8%	15.7%	13.8%	83.6%	82.7%	81.8%	69.6%	79.2%	67.1%	
68.2%	18.9%	12.1%	87.9%	88.3%	87.4%	69.6%	82.7%	66.6%	
72.2%	16.1%	12.6%	85.3%	86.7%	86.4%	68.5%	79.4%	65.7%	
Q39sexYN	Q40safesx	Q41nobcontrl	Q42pressex	Q43preg_yn	Q44STItest	Q45Stress_n	Q46Nofun	Q47insom_n	C
0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	
60.2%	17.9%	15.4%	68.9%	68.6%	68.9%	60.6%	65.3%	59.0%	

Appendix 7, Chart 1, Pg.6. questions were tested in pairs to measure the what percent of subjects (of 428) individually responded "No" to both questions, "Yes" to both, or left both unanswered.

Q48sad_n	Q49suic_n	Q50abused	Q51fightaslt	Q52weapon	Q53fdingang	
63.3%	71.3%	69.9%	67.8%	70.3%	68.2%	Q1hosp
68.5%	76.6%	78.5%	75.7%	79.2%	76.9%	Q2meds
62.4%	67.5%	65.0%	67.3%	68.5%	65.9%	Q3nodent
73.1%	89.3%	89.3%	87.4%	92.3%	88.6%	Q4sheljail
69.9%	82.9%	82.7%	81.8%	86.7%	81.1%	Q5mex
58.2%	61.2%	58.4%	59.3%	59.1%	58.2%	Q6noexer
72.4%	74.8%	74.1%	72.7%	75.2%	75.2%	Q7diz
66.6%	80.8%	79.4%	76.9%	82.9%	79.4%	Q7b_pasdout
69.9%	84.8%	84.3%	79.4%	86.2%	82.7%	Q8conc
67.3%	73.8%	75.2%	72.4%	74.1%	71.3%	Q9breathtroub
72.7%	79.4%	80.8%	75.5%	81.3%	77.1%	Q10chest
73.6%	87.1%	86.4%	81.5%	88.3%	82.9%	Q11heart
58.6%	60.0%	58.9%	60.3%	60.5%	61.0%	Q12dieb455
38.8%	32.7%	33.2%	32.9%	31.5%	34.3%	Q13notallgs
58.6%	64.7%	63.8%	65.2%	68.7%	65.9%	Q14nobike
32.5%	27.1%	27.8%	28.0%	26.6%	28.3%	Q14nohelmet
74.1%	89.5%	88.8%	86.9%	92.8%	88.8%	Q15seatb
69.9%	83.6%	85.5%	81.5%	85.0%	82.0%	Q17shelfost
74.8%	88.6%	87.1%	86.2%	90.7%	87.1%	Q18nothapfam
78.0%	89.0%	88.6%	89.5%	91.6%	86.4%	Q19noadult
58.2%	65.9%	65.4%	63.3%	67.5%	63.1%	Q20nohweight
27.8%	13.6%	14.0%	17.5%	11.0%	15.2%	Q21swdrink_yn
28.7%	15.9%	18.0%	19.9%	14.7%	18.9%	Q22ff_yn
76.2%	91.8%	90.2%	86.9%	92.8%	88.3%	Q23losew
66.1%	73.8%	73.8%	76.4%	75.2%	74.5%	Q24lawtroub
74.5%	90.4%	90.0%	89.3%	91.8%	90.7%	Q25gangs
71.3%	82.2%	81.5%	82.0%	83.2%	81.1%	Q26dropout
57.7%	59.6%	58.4%	61.4%	57.9%	59.3%	Q27GradesBad
26.4%	15.4%	15.0%	18.0%	12.1%	16.6%	Q29nowork
74.1%	85.7%	86.9%	86.9%	88.6%	87.6%	Q31smoke_yn
75.7%	90.4%	90.2%	89.0%	**94.2%**	89.5%	Q32alcoholD
70.3%	78.3%	80.4%	78.7%	80.8%	79.9%	Q34famdrug
68.9%	80.6%	81.8%	82.7%	82.9%	82.5%	Q35potD
74.1%	87.4%	87.1%	86.4%	89.5%	85.3%	Q36odrugs *
73.6%	88.3%	87.1%	83.2%	87.6%	83.6%	Q37GLBT_yn
66.8%	69.6%	70.1%	68.5%	69.6%	71.7%	Q38bfgf
63.6%	68.0%	68.9%	70.8%	68.2%	72.2%	Q39sexYN
15.7%	19.4%	21.0%	15.7%	18.9%	16.1%	Q40safesx *
14.0%	12.1%	12.4%	13.8%	12.1%	12.6%	Q41nobconti *
73.1%	87.4%	90.2%	83.6%	87.9%	85.3%	Q42pressex
72.9%	85.7%	86.0%	82.7%	88.3%	86.7%	Q43preg
72.4%	83.9%	85.5%	81.8%	87.4%	86.4%	Q44STItest
77.1%	70.6%	69.9%	69.6%	69.6%	68.5%	Q45stress
75.9%	81.8%	81.3%	79.2%	82.7%	79.4%	Q46nofun
75.0%	67.1%	65.9%	67.1%	66.6%	65.7%	Q47insomnia
48sad	78.0%	76.2%	75.0%	75.9%	74.3%	Q48sad
78.0%	49suic	91.8%	87.1%	91.6%	87.9%	Q49suic_n
76.2%	91.8%	50abused	86.9%	91.8%	88.1%	Q50abused
75.0%	87.1%	86.9%	51fight	90.0%	87.6%	Q51fightaslt
75.9%	91.6%	91.8%	90.0%	52weapon	92.1%	Q52weapon
74.3%	87.9%	88.1%	87.6%	92.1%	53fdingang	Q53fdingang
Q48sad_n	Q49suic_n	Q50abused	Q51fightaslt	Q52weapon	Q53fdingang	
0	**5**	**5**	**0**	**10**	**2**	
64.3%	71.3%	71.3%	70.2%	72.3%	70.6%	

Appendix8

University of Colorado Anschutz Medical Campus

Colorado Multiple Institutional Review Board, CB F490
University of Colorado, Anschutz Medical Campus
13001 E. 17th Place, Building 500, Room N3214
Aurora, Colorado 80045

303.724.1055 [Phone]
303.724.0990 [Fax]
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comirb@ucdenver.edu [E-Mail]
FWA00005070 [FWA]

University of Colorado Hospital
Denver Health Medical Center
Veteran's Administration Medical Center
The Children's Hospital
University of Colorado Denver
Colorado Prevention Center

Certificate of HIPAA Compliance

09-Jan-2013

Investigator:	Simon Hambidge
Sponsor(s):	
Subject:	COMIRB Protocol 12-1072 HIPAA
Effective Date:	07-Dec-2012
Title:	An Epidemiologic Investigation of Denver Health School-Based and Community Health Clinic Adolescents, 2011

Based upon information submitted to COMIRB, this protocol meets the requirements for HIPAA Compliance in its use of:

HIP001-1

Attachment O: Request for waiver HIPAA Authorization: Determined to meet criteria for full waiver of HIPAA Authorization

Review Comments:

HIP001-1
Attachment O: Full Waiver of HIPAA Authorization: Determined to meet criteria for full waiver of HIPAA authorization

Please note that COMIRB will no longer be E-mailing approved documents. Stamped, approved documents can be retrieved in the eRA (InfoEd) system. Please click here to access instructions on finding these uploaded documents. Documents will be available within the next 48 hours.

Sincerely,

UCD Panel C

Appendix 9

University of Colorado Anschutz Medical Campus

Colorado Multiple Institutional Review Board, CB F490
University of Colorado, Anschutz Medical Campus
13001 E. 17th Place, Building 500, Room N3214
Aurora, Colorado 80045

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University of Colorado Hospital
Denver Health Medical Center
Veteran's Administration Medical Center
The Children's Hospital
University of Colorado Denver
Colorado Prevention Center

Certificate of Exemption

09-Jan-2013

Investigator:	Simon Hambidge
Sponsor(s):	
Subject:	COMIRB Protocol 12-1072 Initial Application
Effective Date:	07-Dec-2012
Anticipated Completion Date:	07-Dec-2015
Exempt Category:	4
Title:	An Epidemiologic Investigation of Denver Health School-Based and Community Health Clinic Adolescents, 2011

This protocol qualifies for exempt status. Periodic continuing review is not required. For the duration of your protocol, any change in the experimental design/content of this study must be approved by the COMIRB before implementation of the changes.

The anticipated completion date of this protocol is 07-Dec-2015. COMIRB will administratively close this project on this date unless otherwise instructed either by correspondence, telephone or e-mail to COMIRB@ucdenver.edu. If the project is closed prior to this date, please notify the COMIRB office in writing or by e-mail once the project has been closed.

You will be contacted every 3 years for a status report on this project.

Please note that if this project was approved with a consent form, you should delete 'Date' and 'Valid for Use Through' in the consent form header, as COMIRB will not record an expiration date on this form. The consent form will remain valid as long as the protocol is open.

Any questions regarding the COMIRB action of this study should be referred to the COMIRB staff at 303-724-1055 or UCHSC Box F-490.

Review Comments:

This exempt approval includes:
Application, version date December 14, 2012
Attachment O: Full Waiver of HIPAA Authorization: Determined to meet criteria for full waiver of HIPAA authorization
Protocol

Sites: DHHA

Please note that COMIRB will no longer be E-mailing approved documents. Stamped, approved documents can be retrieved in the eRA (InfoEd) system. Please click here to access instructions on finding these uploaded documents. Documents will be available within the next 48 hours.

Sincerely,

UCD Panel C

Please provide Feedback on Your Experience with the COMIRB Process