

Using the Rapid Assessment for Adolescent Preventive Services (RAAPS) to Screen for Risk-Taking Behaviors of 13 to 18 year olds in a Primary Care Office

Presidential Grant Application

Megan Carpenter, BSN, RN

Grand Valley State University

Kirkhof College of Nursing

Introduction and Background

Adolescents are an aggregate population with high rates of texting or emailing while driving; smoking tobacco; drinking alcohol; being bullied; obtaining insufficient exercise; and taking in inadequate amounts of fruits and vegetables (Centers for Disease Control and Prevention, 2017). The American Academy of Pediatrics (AAP) (2017) recommends screening adolescents for alcohol and tobacco use. The AAP additionally advocates for pediatric providers to communicate the importance of seatbelt use, eating a healthy diet, and participating in exercise (AAP 2015; AAP 2018). However, because this endorsement often goes unheeded, a gap exists between scholarly recommendations and clinical practice, which results in this population being underserved (AAP, 2008). Consequently, this lack of screening can proliferate unhealthy and risk behaviors in adolescents.

The Rapid Assessment for Adolescent Preventive Services (RAAPS) is a newer, validated screening tool for use in primary care to assess risk-taking behaviors in adolescents aged 13-18 years old (Salerno & Barnhart, 2013). Although some practices may screen for depression in primary care, this only assesses one area of risk. The RAAPS is more efficient because it screens for many risk-taking behaviors that have been found to be leading causes of adolescent mortality (Darling-Fisher et al., 2014). If risk factors are not identified, patients are not likely to be offered counseling, treatment, and other services they need. By using the responses to the RAAPS screening as a stimulus to discuss risk-taking behaviors, educate patients and caregivers, prescribe effective treatments, and coordinate care with specialists, the provider can advocate for decreased rates of risk-taking behaviors in the adolescent population. A sample of the standard version of the RAAPS screening tool can be found in Appendix A.

The RAAPS is strongly supported by the Agency for Healthcare Research and Quality

(AHRQ) and the US Department of Health and Human Services (HHS) (Possibilities for Change, 2018). The screening is available in English and Spanish, contains twenty-one questions and can be completed by the patient in less than seven minutes (Darling-Fisher et al., 2014). The simple format of RAAPS has been a highlight for providers and has contributed to their commendation (Yi, Salerno, & Darling-Fisher, 2009).

Studies that evaluated providers' perceptions of RAAPS demonstrated reliability and validity in detecting adolescents with risk-taking behaviors, and prompted the initiation of appropriate conversations (Darling-Fisher et al., 2014, Salerno, 2012). Research undertaken by Yi, Salerno and Darling-Fisher (2009) revealed that adolescents disclosed risk-taking behaviors through the RAAPS screening and their responses yielded more referrals from the healthcare provider to counseling services. The United States Preventive Services Task Force (USPSTF, 2016) discovered that the potential for harm in adolescents from depression screening and counseling is extremely low. It can be inferred that risk to participants from RAAPS screening and subsequent counseling would likewise be very low.

The AAP guidelines (2018) are not routinely followed at Mercy Health Southwest and the application of RAAPS could possibly assist the organization in complying. In addition, two quality care measures from the Centers for Medicare and Medicaid Services (CMS) are screening for tobacco and for depression, which can both be completed through the use of RAAPS (Health Resources and Services Administration, 2016). Furthermore, staff members at Mercy Health Southwest have commented that RAAPS could help them to utilize visits as an opportunity to identify adolescents in need of help.

Ten primary care providers practice at this office and together they see 678 patients between the ages 13 to 18 years old. Mercy Health Southwest is located in Kent County and risk-

taking behaviors are a problem in Kent County adolescents. For example, in the 2016-2017 Michigan Profile for Healthy Youth Questionnaire, nearly 50% of Kent County students in 11th grade had drunk alcohol, about 22% had been bullied at school in the past month, and fewer than 20% had eaten five or more servings of fruits or vegetables in the last week (Michigan Department of Education, 2017a,b,c). Mercy Health Southwest providers have an opportunity to assume the responsibility of routine screening to protect adolescents and prevent harmful influences.

The long-term goal of this quality improvement project is increased identification of adolescents with risk-taking behaviors, and subsequently, improved care and follow-up of these patients. The short-term objectives of this project are to educate providers, medical assistants (MAs), and administrative assistants about the importance of risk screening, and assist them in the physical implementation of RAAPS. Currently, risk-taking behaviors are not regularly discussed with adolescents in this office and the RAAPS will provide a medium to amend this problem.

The purpose of this project is to acknowledge the practice issue of insufficient adolescent risk-taking screening and improve care for this vulnerable population. The setting was chosen because Mercy Health identified adolescent screening as an area of needed improvement for their organization. Therefore, the goal of this project is to implement the evidence-based RAAPS intervention and determine if it improves care for adolescents with risk-taking behaviors.

Research Question and Hypothesis

Does implementation of the RAAPS screening tool improve care for adolescents with risk-taking behaviors, measured by increased provider- adolescent conversations about these

behaviors, follow up visits, or referrals? My hypothesis is that yes, this screening tool will increase these outcomes.

Methodology

Design and Procedures

In this quality improvement project to improve the identification and management of adolescent risk-taking behaviors there will be five phases, led by this Doctor of Nursing Practice (DNP) student completing the pediatric nurse practitioner track from the Kirkhof College of Nursing (KCON). The first phase will include gathering baseline data. The second phase will include education to the staff about the RAAPS screening tool and staff expectations. The provider packet that the student created will be discussed with the providers. The third phase will involve implementation of the pilot project. The fourth phase will contain appraisal of the implementation data. The third and fourth phases will occur simultaneously. The fifth phase will include comparison of pre-implementation vs. post-implementation data to evaluate if implementation of the RAAPS screening tool increased identification and management of risk-taking behaviors in adolescent patients.

During the first phase, pre-implementation chart reviews will be conducted. This student will log in to the Athena electronic health record (EHR) and evaluate for each provider the last ten patients between the ages of 13-18 years old that had a well child exam. The student will examine if any of the topics that are addressed in RAAPS were discussed in the plan as part of the standard practice of a well child exam at MHPPSW. The findings will be recorded in Research Electronic Data Capture (REDCap), which is the secure online system that Mercy Health uses to store data. During the second phase, this student will provide RAAPS education to

staff, along with education about staff expectations regarding RAAPS implementation. The providers will receive education about the provider packet.

The third phase in this quality improvement project is implementation of the RAAPS screening tool during the well-child visits. The first step in this phase is for the administrative assistants to provide the RAAPS to adolescent patients aged 13 to 18 years to fill out, after they are registered for their visit. After the medical assistant (MA) takes a patient to an examination room, the MA will deliver the completed RAAPS to the provider. The provider will then evaluate the results and discern which topics to address with the patient. Once in the patient's room, the provider will sensitively discuss these risk-taking topics with the assistance of the Provider Packet developed by the student, in order to develop a treatment plan that assists the teen patient in ways that are appropriate and acceptable. If applicable, a follow-up appointment can be scheduled to further address risk-taking behaviors. The provider should then document in the patient plan portion of the electronic health record (EHR) the administration of RAAPS, the discussion that ensued, and any follow up visits or referrals made. The provider can then subsequently bill for using the tool.

The fourth phase of this quality improvement project involves post-implementation chart reviews. During post-implementation chart reviews, this student will log in to the EHR and evaluate the charts of all patients that were seen between the ages of 13 to 18 years for a well child exam. This student will evaluate the RAAPS screening tool to determine if the adolescent marked the response that indicates greater risk for any of the 21 questions. Then, the student will assess if the provider addressed any of the marked answers that indicates greater risk. For example, question 2 asks "do you eat some fruits and vegetables every day?" A greater risk response to this type of question would be the answer "no." Question 8 asks "have you ever

carried a weapon (gun, knife, club) to protect yourself?” For this type of question a greater risk response would be “yes.” If a risk-taking behavior was marked with a greater risk response on the screening tool but no intervention is documented in the patient’s plan in the EHR, this student will make a report to the site mentor.

The post-implementation chart review will also evaluate whether the provider documented that the patient will return for a follow up appointment, or if information was provided for a referral. Additionally, the student will evaluate if the provider correctly billed for using the RAAPS screening tool, so that they are able to receive proper reimbursement. In the fifth phase of this quality improvement project, the student will compare baseline data to post-implementation data to understand if the RAAPS implementation significantly changed identification and management of risk-taking behaviors in adolescent patients.

Setting & Sample

The setting will be the Mercy Health Physician Partners Southwest office in Byron Center, Michigan. The provider sample will be all of the primary care providers (physicians, physician assistants, and nurse practitioners) who see adolescent patients as part of their regular workloads. The adolescent sample will include every patient between the ages of 13 to 18 who came to the office for a well child visit during the implementation period.

Data Collection & Analysis

In order to maintain patient confidentiality, data obtained for evaluation of RAAPS usage will have no names, addresses, or medical record numbers, but only a unique project identification code, date of visit, and the demographic variables of patient age and sex. Each provider will be assigned a number that will only be known to this student. The complete data will be stored on Mercy Health’s secure network. The de-identified data will be sent to a GVSU

research assistant for analysis, who will be supporting the student in statistical analysis. He will utilize statistical analysis software (SAS).

The data collected will be analyzed using descriptive statistics, including counts, frequencies, and percentages of provider visits in which the screenings and discussions were completed pre- and post-implementation. The total counts of these interventions pre- and post will be calculated and if the numbers are sufficient, non-parametric comparisons will be completed. The numbers of providers and patient visits are anticipated to be too few in number to allow appropriate use of hypothesis testing of differences in screening interventions by provider. However, if the patient numbers allow it, pre- and post- comparisons of individual provider interventions will be completed using non-parametric paired statistics such as the Wilcoxin Signed-Rank test.

Dissemination of Information

The DNP student will provide dissemination of the findings of the project to the setting's staff and KCON faculty by April 30th, 2019. She will collaborate with Mercy Health Physician Partners Southwest to determine if the providers want to continue implementing RAAPS for patients between the ages of 13 and 18. The DNP student will assist with facilitating project sustainability, if desired by the organization. In addition, the DNP student will complete the requirements of the GVSU KCON DNP Scholarly Project through the defense process, which includes writing a formal paper and presenting the findings to the advisory committee. In addition, the findings will be submitted to GVSU ScholarWorks for publication. When the final reports of the project are written, no patients or providers will be identified, and the patient responses will only be reported in the aggregate. Additionally, the Mercy Health system and specific setting in which the project was completed will not be identified.

Budget

Item	Description	Amount
Cost to use RAAPS screening tool for one year (sent to Possibilities for Change, from Mercy Health)	Possibilities for Change charges \$360 for one year for of RAAPS usage. The licensing agreement is in progress at the administrative level at this time. Note: For the purpose of this pilot project the licensing fee will be this student's responsibility. If Mercy Health would like to renew the license, they will pay for future years from their budget.	\$360.00
Coil bound 4 page double-sided Provider Guide from Fed Ex Printing	This is a tool for each provider that goes through, national standards and best practices for each of the 21 RAAPS questions	\$11.92 per 10 providers = 176.12
Printing costs including black ink, color recycled paper and lamination from Fed Ex Printing	1/2 page administrative assistant guide and 1/2 page MA/LPN guide (on same page, will be cut by me)	7 pages at 3.78 each for a total of \$26.46
Printing costs including color ink, white recycled paper and lamination from Fed Ex Printing	1 page flow chart to post at worksites (12)	200 pages at \$0.59 per sheet for a total of \$118
Printing costs including black ink, colored recycled paper and lamination from Fed Ex Printing	RAAPS 1 page information sheet for everyone involved including overview	8 pages at \$3.14 per sheet for a total of \$25.12

	information	
Printing costs for printing out RAAPS Screening tool, white paper, colored ink	RAAPS 1 page screening tool (100 copies)	100 pages at 59 cents per page= \$59.00
Printing costs for printing out parent guide, white paper, colored ink	Parent Handout from Possibilities for change (100 copies)	100 pages at 59 cents per page =59.00
Travel Expenses to and from Facility	The Organization is 16.4 miles from the student’s home. The student plans to drive to and from the clinic 14 times for a total of 459.2 miles. According to the IRS, mileage reimbursement for business use of a personal vehicle rate of 54.5 cents per mile in 2018.	\$ 250.26 Per the IRS, mileage reimbursement for business use of a personal vehicle is a rate of 54.5 cents per mile in 2018.
Printing costs including black ink, color recycled paper and lamination from Fed Ex Printing	“Thank you all for your help with RAAPS Implementation! You are Appreciated! –Megan Carpenter”	2 pages at 3.78 each for a total of \$ 7.56.
Incentives for staff on ‘go-live,’ ‘half-way’ and ‘last day’ of RAAPS implementation	Foods such as sub sandwiches, yogurt, clementines, granola bars, etc.	\$200.00
Grand Total:		1281.52

References

- American Academy of Pediatrics (2008). Achieving quality health services for adolescents. *Pediatrics*, *121*(6), 1263–1270. <https://doi.org/10.1542/peds.2008-0694>
- American Academy of Pediatrics (2018). *Back to school tips from the American Academy of Pediatrics*. Retrieved from: <https://www.aap.org/en-us/about-the-aap/aap-press...tips/.../back-to-school-tips.aspx>
- Daniels, S. R. & Hassink, S. G. (2015). The role of the pediatrician in primary prevention of obesity. *Pediatrics*, *136* (1), e275-e292. doi:10.1542/peds.2015-1558
- Darling-Fisher, C. S., Salerno, J., Dahlem, C. H. Y., & Martyn, K. K. (2014). The Rapid Assessment for Adolescent Preventive Services (RAAPS): Providers' assessment of its usefulness in their clinical practice settings. *Journal of Pediatric Health Care*, *28*(3), 217–226. <https://doi.org/10.1016/j.pedhc.2013.03.003>
- Health Resources and Services Administration (2016). *Trinity Health, Michigan d/b/a Mercy Health Saint Mary's Health Center Profile*. Retrieved from: <https://bphc.hrsa.gov/uds/datacenter.aspx?q=d&state=MI&year=2012&bid=051840>
- Michigan Department of Education (2017a). *Michigan Profile for Healthy Youth 2016-2017 Kent Alcohol and Other Drugs High School*. Retrieved from: <https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx>
- Michigan Department of Education (2017b). *Michigan Profile for Healthy Youth 2016-2017 Kent Violence High School*. Retrieved from: <https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx>

Michigan Department of Education (2017c). *Michigan Profile for Healthy Youth 2016-2017*

Kent Weight and Nutrition High School. Retrieved from:

<https://mdoe.state.mi.us/schoolhealthsurveys/ExternalReports/CountyReportGeneration.aspx>

Possibilities for Change (2018). *RAAPS*. Retrieved from: <http://www.possibilitiesforchange/raaps/>

Salerno, J., & Barnhart, S. (2013). Evaluation of the RAAPS risk screening tool for use in detecting adolescents with depression. *Journal of Child and Adolescent Psychiatric Nursing*, 27, 20-25. doi: 10.1111/jcap.12060.

Steinburg, L. (2007). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.

United States Preventative Task Force. (2016). Screening for depression in children and adolescents. *Task Force Final Recommendation*, 1-4.

Yi, C. H., Salerno, J., & Darling-Fisher, C. S. (2009). Development and clinical use of Rapid Assessment for Adolescent Preventive Services (RAAPS) questionnaire in school-based health centers. *Journal of Pediatric Health Care*, 23(1), 2-9.
doi:10.1016/j.pedhc.2007.09.00

Appendix A: Sample of Standard RAAPS Screening Tool

1. In the past 12 months, have you taken diet pills or laxatives, made yourself vomit (throw up) after eating, or starved yourself to lose weight?