

# Impact of SBHC Services on Education Outcomes

Service Use Patterns based on Demographics and Education Outcomes

6/7/22

Kelly Whitaker, Ph.D., Susan Stone, Ph.D., Chayna Davis, Ph.D., Kristine Lee, Mahima Joshi & Aaron Lyon, Ph.D.

# Acknowledgements

This study was jointly funded by Kaiser Permanente and Public Health--Seattle & King County

# Background Evidence

SBHCs promote youth and adolescent health outcomes (Guo et al., 2005; McNall, Lichty, & Mavis, 2010; Soleimanpour, et al., 2010; Wade et al., 2008; Webber et al., 2005)

Two studies that found a relationship between SBHC utilization and school assets (Strolin-Goltzman et al., 2014; Stone, Whitaker et al., 2013)

Small but growing body of evidence that student participation in SBHCs is positively related to academic outcomes (Geierstanger et al., 2004; Keeton et al., 2012; Silberberg & Cantor, 2008; Walker et al., 2010)

# Study Goals



**Overall Goal:** to examine the relationship between school-based health center (SBHC) utilization and *academic outcomes* (grades and attendance)



**Intermediate Goals:** to identify a cohort of 9th grade students in the dataset and identify their service trajectories over 4 years to:

- 1) provide an intensive description of SBHC utilization (e.g., types of services received, numbers of sessions) and
- 2) match to students who did not use SBHC services (based on demographic and educational indicators).

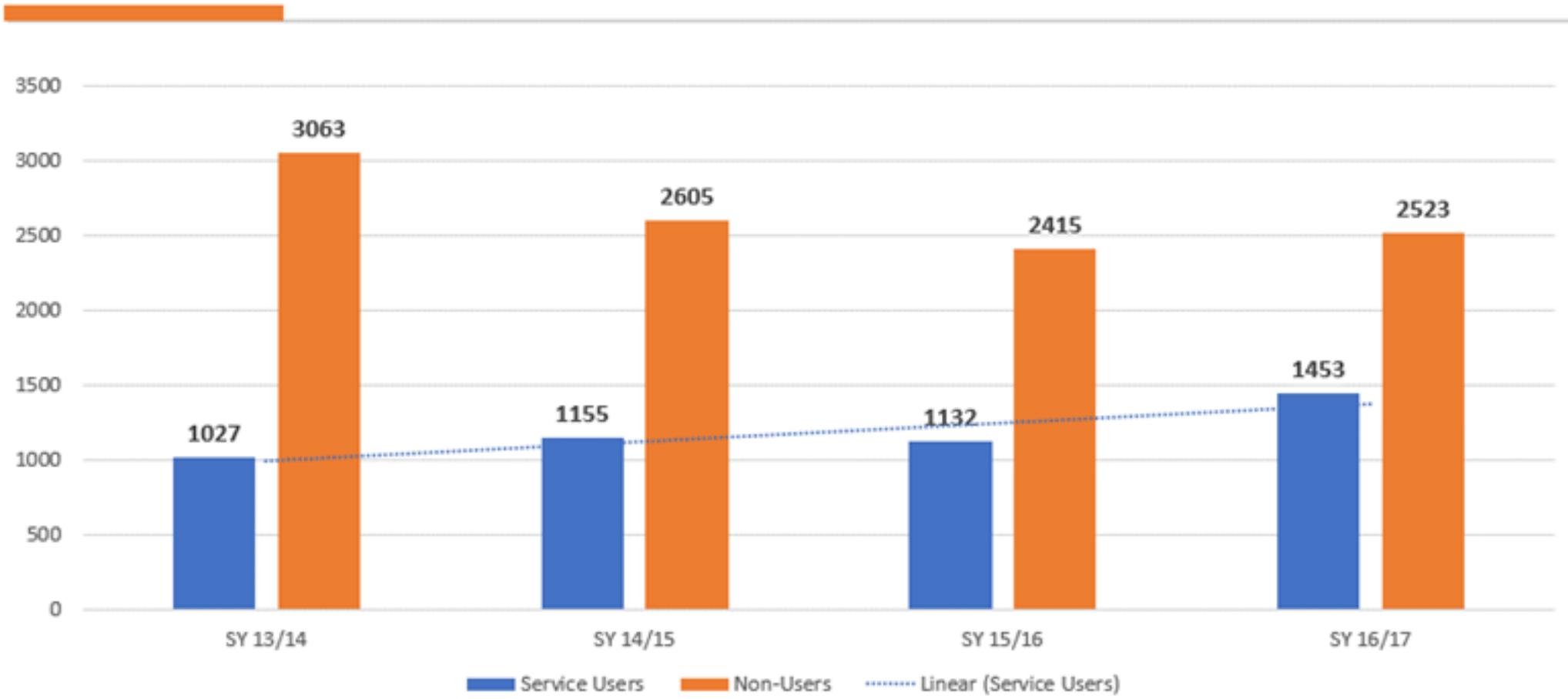
## Study Context & Sample

This study focused on SBHC services operating in 17 secondary schools in Seattle

### Study Sample by School Year (SY) and SBHC utilization

Year	Total	SBHC Users	SBHC Non-Users
SY 13/14	4,090	1,027	3,063
SY 14/15	3,761	1,155	2,605
SY 15/16	3,547	1,132	2,415
SY 16/17	3,976	1,453	2,523

# Service Users vs. Non-Users by year



variable	SBHC Users (n=1,027)	SBHC Non-Users (n=3,063)
Male	43.0%*	54.4%
Female	57.0%*	45.6%
American Indian	1.7%	1.6%
Asian	18.7%	17.2%
African American/Black	25%*	18.8%
Pacific Islander	0.9%	0.5%
Caucasian	27.6%*	42.8%
Latinx	20.1%*	13.9%
Multiracial	6.0%	5.2%
ELL Eligible	18.3%*	7.7%
ELL Served	17.3%*	7.2%
IEP	17.5%*	13.3%

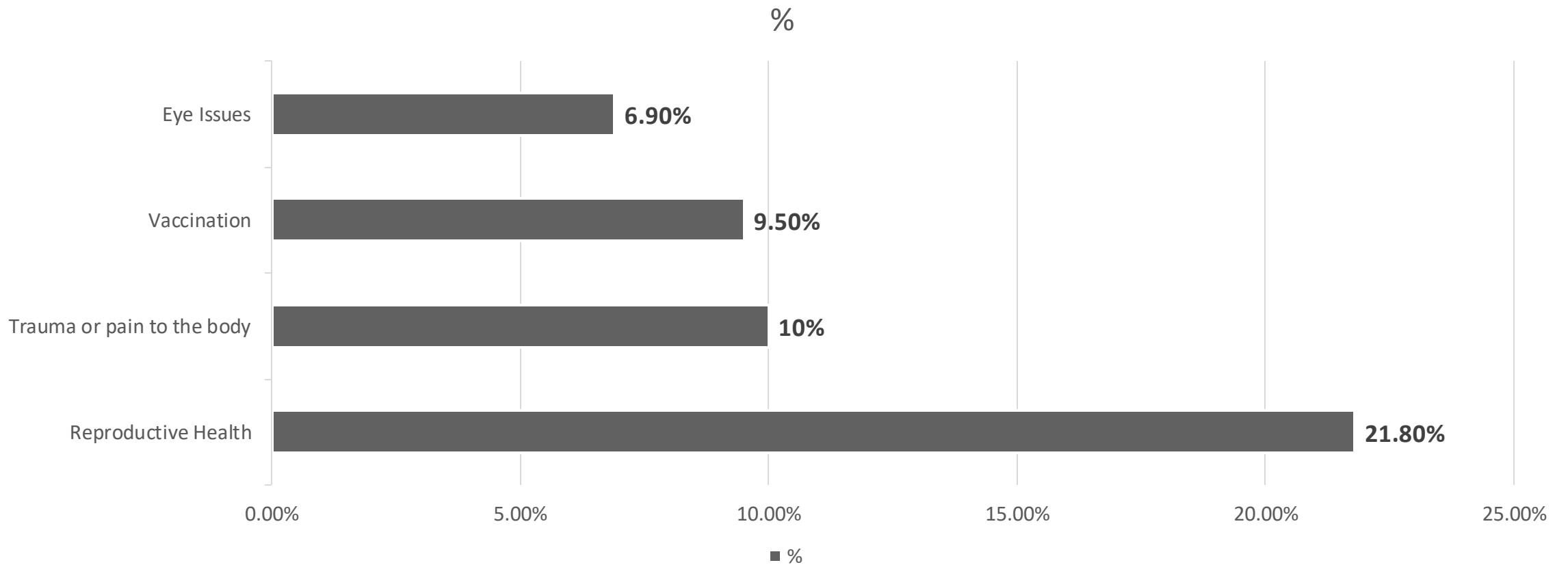
\*Significant p<.05

<b>variable</b>	<b>Medical Users (n=791)</b>	<b>Behavioral Health Users (n=226)</b>
Male	44.9%*	36.4%
Female	55.1%*	63.6%
American Indian	1.8%	1.3%
Asian	20.4%	12.9%
African American/Black	25.6%	23.1%
Pacific Islander	0.9%	0.9%
Caucasian	25.7%	34.2%
Latinx	19.6%	21.8%
Multiracial	6.1%	5.8%
ELL Eligible	20.4%*	11.1%
ELL Served	19.1%*	11.1%
IEP	18.7%*	23.6%

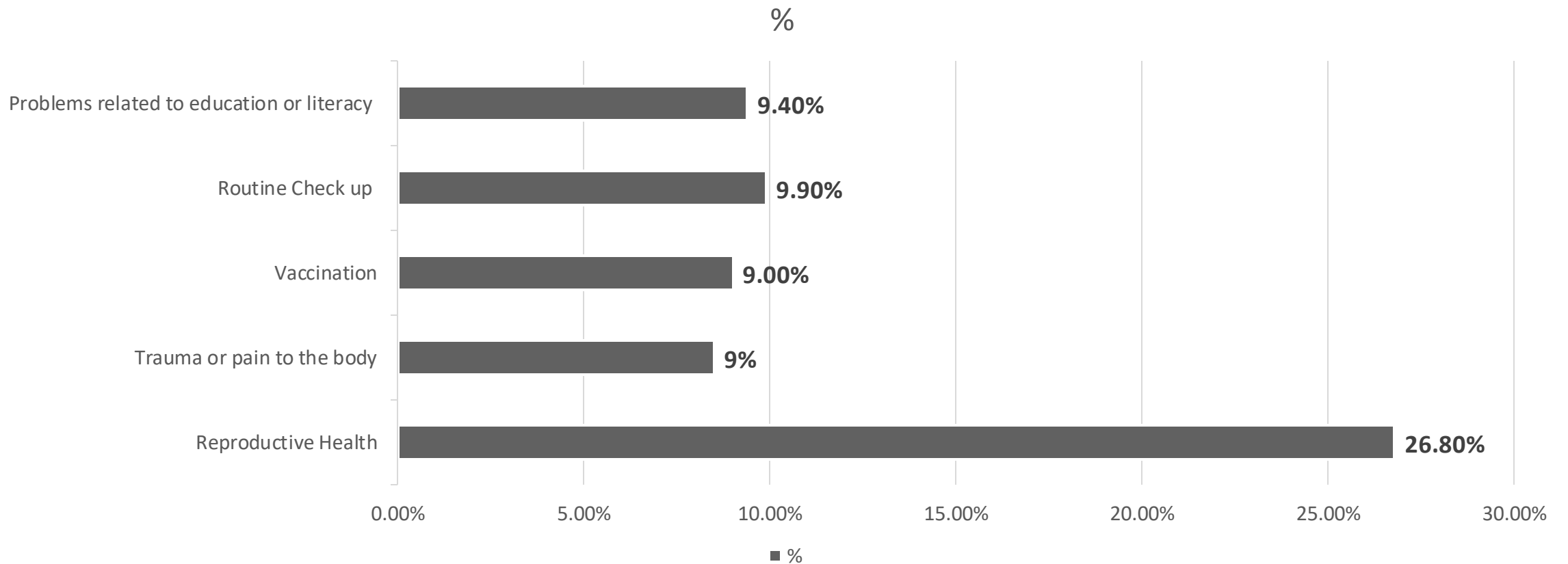
\*Significant p<.05



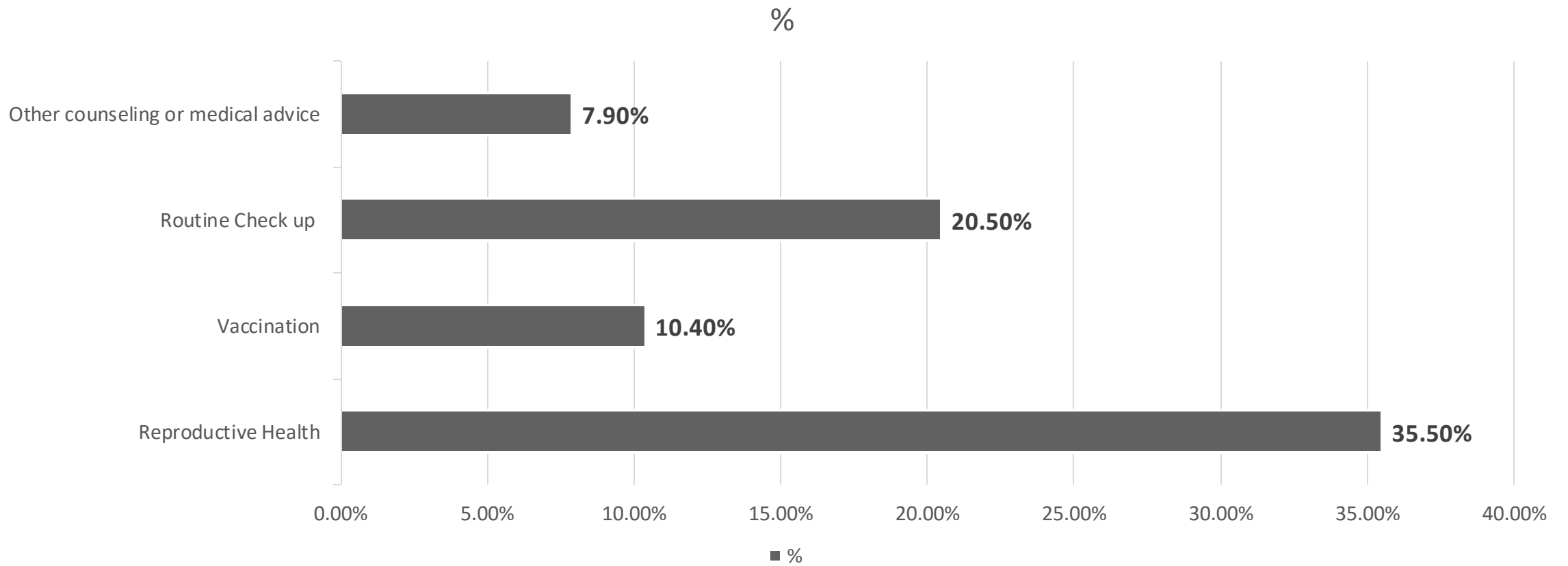
# Overall top reasons for SBHC visit (13/14)



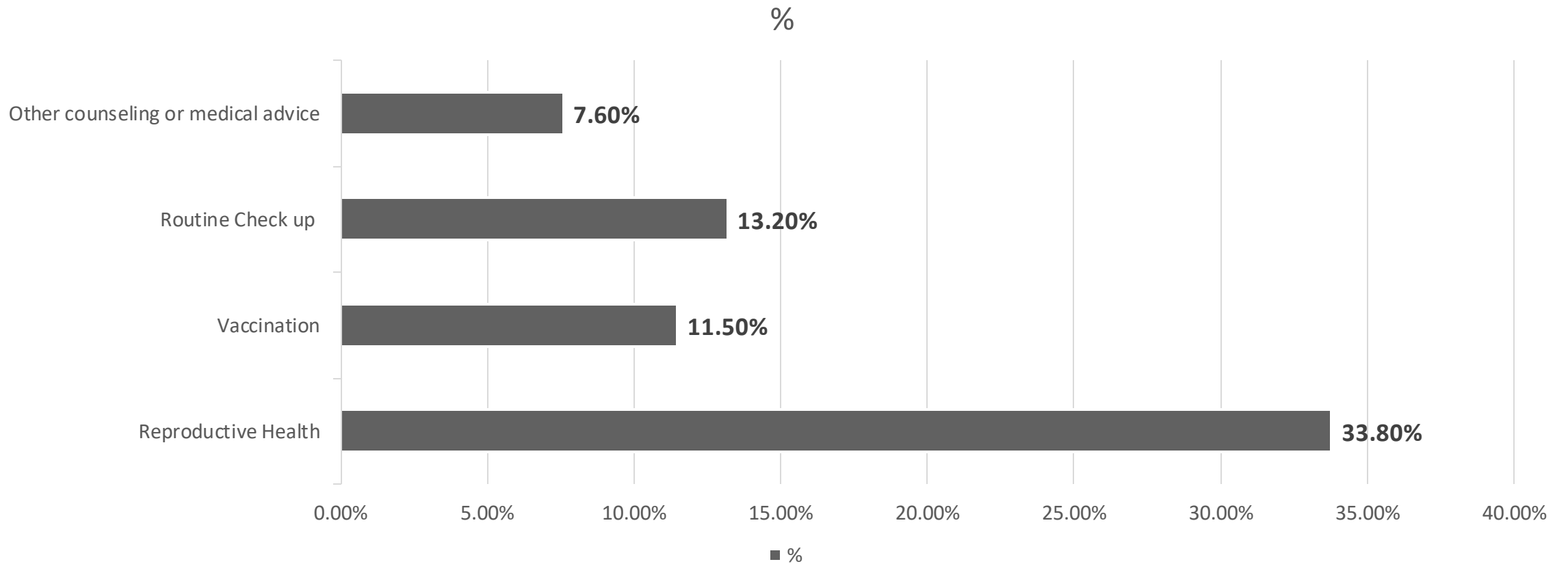
# Overall top reasons for SBHC visit (14/15)



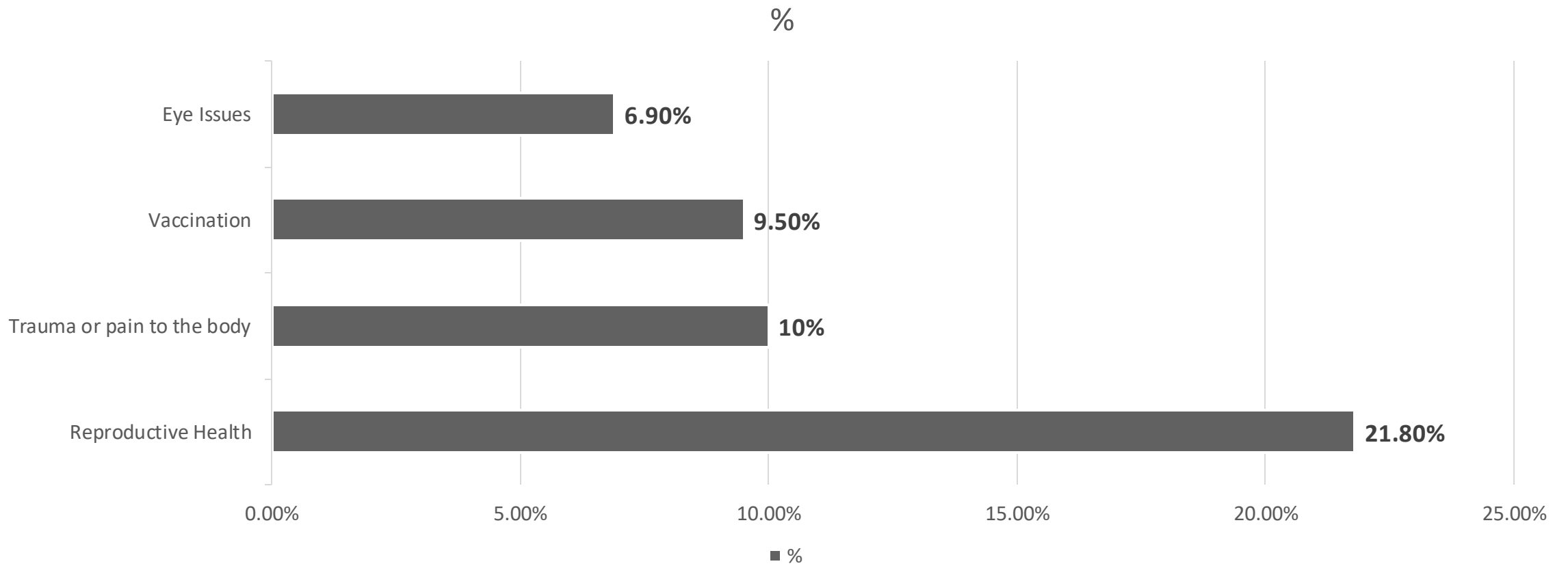
# Overall top reasons for SBHC visit (15/16)



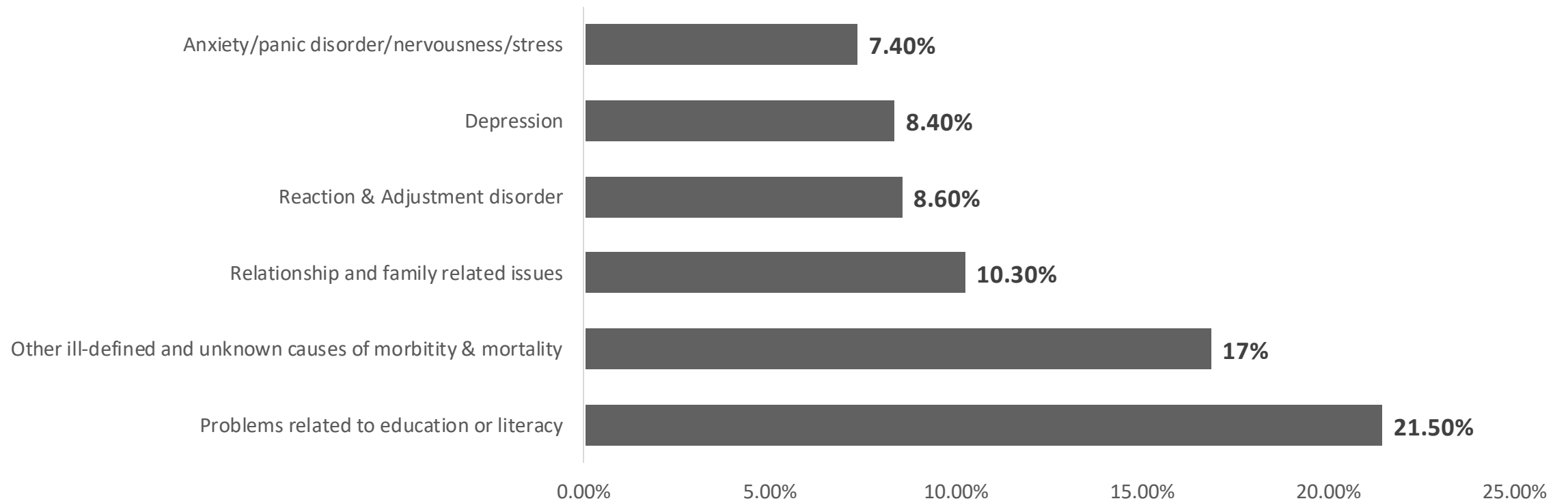
# Overall top reasons for SBHC visit (16/17)



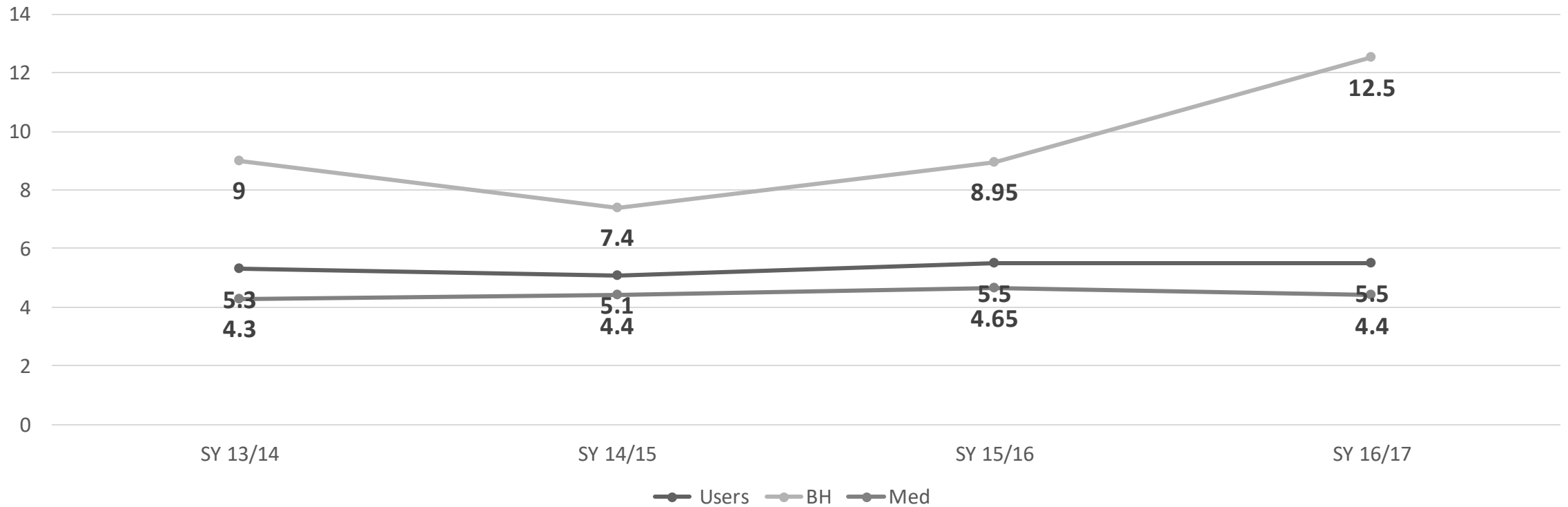
# Overall top reasons for SBHC visit--Medical



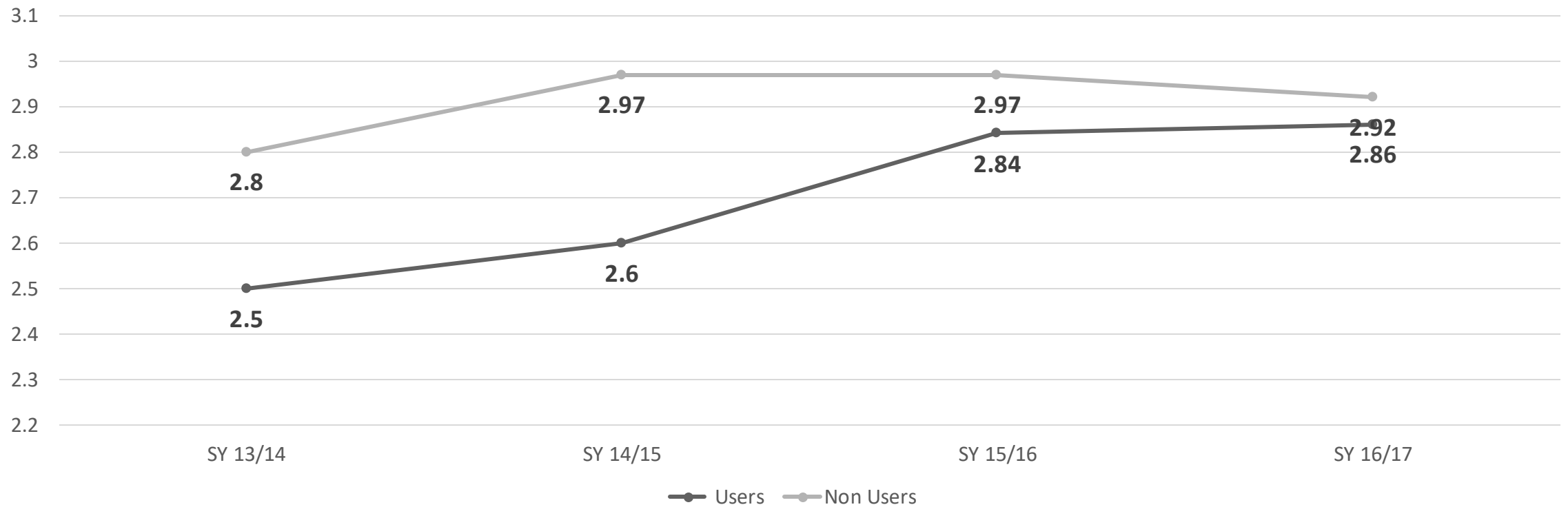
# Overall top reasons for SBHC visit—Behavioral Health



# Service Sessions (Mean)



# GPA (Mean)





# Absences (Mean)

	<b>Service Users</b>	<b>Non-Service Users</b>	<b>Medical Service Users</b>	<b>Behavioral Health Users</b>
Total Absences	12.6*	11.7	11.5	16.5*
Unexpected Absences	8.0	7.7	7.5	9.6*
Expected Absences	4.6	4.0	4.0	6.9*



# Relationship between GPA and Service Use

# Outcomes

Hierarchical Linear Regression

# What predicts # of service sessions?

predictor	Coef.
School year 14-15	.299
School year 15-16	.951**
School year 16-17	.337
American Indian	3.70**
Asian	.362
AA/Black	.727*
Pacific Islander	-1.71
Latinx	1.57***
Multiracial	1.23*
Sex	2.55***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

- School year (sig more sessions in 15/16 compared to 13/14)
- Race (AI, AA, Latinx and Multiracial students sig more likely to have more service sessions than White students)
- Sex (Females are more likely to have more service sessions than males)
- Schools do not predict # of service sessions

# What predicts GPA?

predictor	Coef.
Service Sessions	-.017***
School year 14-15	.035
School year 15-16	.128**
School year 16-17	.193***
American Indian	-.667***
Asian	.109**
AA/Black	-.577***
Pacific Islander	-1.02***
Latinx	-.518***
Multiracial	-.130*
Sex	.286***

\*p<.05, \*\*p<.01, \*\*\*p<.001

- # Service Sessions related to lower GPA
- School years 15/16 and 16/17 predict higher GPA (compared to 13/14)
- Race -- AI, AA, PI, Latinx and Multiracial students have sig lower GPA than White students
- Sex (Females are more likely to have higher GPA than males)

# What predicts Attendance (unexcused absences)?

predictor	Coef.
Service Sessions	.178***
School year 14-15	3.46***
School year 15-16	6.42***
School year 16-17	11.7***
American Indian	11.76***
Asian	1.03
AA/Black	8.28***
Pacific Islander	11.1**
Latinx	7.85***
Multiracial	1.66
Sex	-1.12

- Service Session related to increased absences
- School years 14/15, 15/16 and 16/17 predict higher absences (compared to 13/14)
- Race -- AI, AA, PI, Latinx students have sig higher absences than White students

\*p<.05, \*\*p<.01, \*\*\*p<.001

# Outcomes

Fixed Effects Regressions

## The bad news

- We did not find improvements in educational outcomes for general population of SBHC users compared to non-users after four years of high school.
- We explored this relationship by race and gender and service use (high vs. low) and did not find significant improvements in grades or attendance.



## The good news

- We found that for students who were struggling academically (i.e., had below average GPAs (less than 3.0) and failing GPAs (less than 2.0)), service use was significantly related to improved GPA after four years of high school ( $p < .05$ ).

# Implications for Practice

- Increased collaboration between schools and SBHCs to align goals around academic achievement
  - Consider using academic risk as an indicator for SBHC services
  - Empower youth to participate in identification or targeted treatment goals
- 
- Use an indicator of school performance on assessment tools/intake materials

# Implications for Policy and Research

- Investment in SBHC services is an important method for providing access to health and mental health services
  - SBHCs increase access to health and mental health services
  - Impact student educational outcomes
- Importance of connecting academic and health data

- Additional research on:
  - nuances of service use for various student populations (e.g., race, gender, etc.)
  - additional longitudinal research on the impact of SBHC services on educational outcomes

Questions ?

[Kellywhitaker5@gmail.com](mailto:Kellywhitaker5@gmail.com)