

4P's Plus: MIECHV

June 21, 2012 – December 07, 2018

Since implementing the 4P's Plus program, MIECHV has screened a total of 1,691 women (one hundred and twenty six screens had no valid date and thus were not included in the analyses leaving a total of 1,565). Of the women who identified their race, the majority were African American (34.1%), Hispanic (31.2%), and Caucasian (27.6%). Among screens with communities reported, most screens were from Vermillion (20.1%), Rockford (18.9%), and Elgin (15.1%). The average age for a woman with an initial screen was 23.11 ($SD = 5.96$) and women's ages ranged from 13 to 47 years old. There were a total of 505 positive screens, 32.3% of the total number of screens. There have been a total of 210 brief interventions offered and 122 (58.1%) were accepted. There have been a total of 545 referrals made and 145 (26.6%) of those referrals were accepted.

Note: Some of the following percentages may not equal 100% due to missing values or rounding.

Preliminary Questions

All percentages in this section are out of 1,565

- ❖ Did either of your parents have any problem with drugs or alcohol?
 - Yes: 405 (25.9%)
 - No: 1,151 (73.5%)
 - Chi-Square analysis showed a significant relationship between parent's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 1,537) = 139.72, p < .001$. Women whose parent had a drug or alcohol problem were more likely to have a positive screen (56.5%) compared to those whose parent did not have a drug or alcohol problem (24.3%). Cramer's v value indicates a moderately strong relationship with an effect size (v) of .30.

- ❖ Does your partner have any problem with drugs or alcohol?
 - Yes: 139 (8.9%)
 - No: 1,404 (89.7%)
 - Chi-Square analysis showed a significant relationship between partner's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 1,527) = 38.18, p < .001$. Women whose partner had a drug or alcohol problem were more likely to have a positive screen (56.1%) compared to those whose partner did not have a drug or alcohol problem (30.3%). Cramer's v value indicates a weak relationship with an effect size (v) of .16.

Domestic Violence Questions

- ❖ Have you ever felt out of control or helpless?
 - Yes: 175 (11.2%)
 - No: 1,377 (88.0%)

- ❖ Does your partner threaten to hurt or punish you?
 - Yes: 53 (3.4%)
 - No: 1,485 (94.9%)

- ❖ Chi-Square analysis showed a significant relationship between domestic violence and the pregnant woman’s screen outcome, $\chi^2(1, N = 1,520) = 84.56, p < .001$. Women who answered positively to the domestic violence questions were more likely to have a positive screen (61.5%) compared to women who did not experience domestic violence (28.5%). Cramer’s v value indicates a moderate relationship with an effect size (v) of .24.

Depression Questions

- ❖ In the past two weeks, have you ever felt down, depressed, or hopeless?
 - Yes: 278 (17.8%)
 - No: 1,281 (81.9%)

- ❖ In the past two weeks, have you lost interest in doing the things that used to be fun to you?
 - Yes: 200 (12.8%)
 - No: 1,348 (86.1%)

- ❖ Chi-Square analysis showed a significant relationship between depression and the pregnant woman’s screen outcome, $\chi^2(1, N = 1,535) = 49.59, p < .001$. Women who experienced depressive symptoms were more likely to have a positive screen (48.0%) compared to women who did not (27.9%). Cramer’s v value indicates a weak relationship with an effect size (v) of .18.

Screen Results (Figure 1)

- ❖ In the month before you knew you were pregnant, how many cigarettes did you smoke?
 - Any: 355 (22.7%)
 - None: 1,196 (76.4%)

- ❖ In the month before you knew you were pregnant, how much wine/beer/liquor did you drink?
 - Any: 325 (20.8%)
 - None: 1,216 (77.7%)

- ❖ *Positive Screens: 505 (32.3%)*

Total n: 1,565

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	138	8.8%
Alcohol Only	120	7.7%
Marijuana Only	19	1.2%
Drug Only	0	0.0%
Cig & Alc	99	6.3%
Cig & Mj	34	2.2%
Cig & Drug	2	0.1%
Alc & Mj	28	1.8%
Alc & Drug	1	0.1%
Mj & Drug	6	0.4%
Alc, Mj, & Drug	1	0.1%
Cig, Mj, & Drug	6	0.4%
Cig, Alc, & Drug	2	0.1%
Cig, Alc, & Mj	67	4.3%
Cig, Alc, Mj, & Drug	7	0.4%
None	1,035	66.1%

Figure 1. Descriptive table of substance use before knowledge of pregnancy

Assessment Results

All percentages in this section are out of 871; the total number of women given the assessment.

Note: Some of the following percentages may not equal 100% due to missing values or rounding.

Month Before Pregnancy (Figure 1)

- ❖ During the month before you knew you were pregnant, about how many days a week did you usually use marijuana?
 - Any: 168 (19.3%)
 - None: 690 (79.2%)
- ❖ During the month before you knew you were pregnant, about how many days a week did you usually use any drug such as cocaine, heroin, or meth?
 - Any: 25 (2.9%)
 - None: 832 (95.5%)

Since Pregnancy (Figure 2)

- ❖ And last month, about how many days a week did you usually smoke cigarettes?
 - Any: 231 (26.5%)
 - None: 631 (72.4%)
 - Refer to Figure 3A
- ❖ And last month, about how many days a week did you usually drink beer, wine, a daiquiri or liquor?
 - Any: 92 (10.6%)
 - None: 769 (88.3%)
 - Refer to Figure 3B
- ❖ And last month, about how many days a week did you usually use marijuana?
 - Any: 68 (7.8%)
 - None: 788 (90.5%)
 - Refer to Figure 3C
- ❖ And last month, about how many days a week did you usually use any drug such as cocaine, heroin, or meth?
 - Any: 18 (2.1%)
 - None: 839 (96.3%)
 - Refer to Figure 3D
- ❖ Positive Assessments: 346 (39.7%)

Total n: 871

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	151	17.3%
Alcohol Only	33	3.8%
Marijuana Only	16	1.8%
Drug Only	0	0.0%
Cig & Alc	34	3.9%
Cig & Mj	23	2.6%
Cig & Drug	1	0.1%
Alc & Mj	7	0.8%
Alc & Drug	0	0.0%
Mj & Drug	1	0.1%
Alc, Mj, & Drug	0	0.0%
Cig, Mj, & Drug	4	0.5%
Cig, Alc, & Drug	1	0.1%
Cig, Alc, & Mj	6	0.7%
Cig, Alc, Mj, & Drug	11	1.3%
None	583	66.9%

Figure 2. Descriptive table of substance use since knowledge of pregnancy

Brief Interventions

- ❖ There have been a total of 210 brief interventions offered and 122 (58.1%) were accepted.
- ❖ Among women with a positive screen, 143 brief interventions were offered and 84 (58.7%) were accepted.

Referrals

- ❖ A total of 545 referrals were offered and 145 of them were accepted (26.6%).
- ❖ Among women with a positive screen, 369 referrals were offered and 102 referrals were accepted (27.6%).

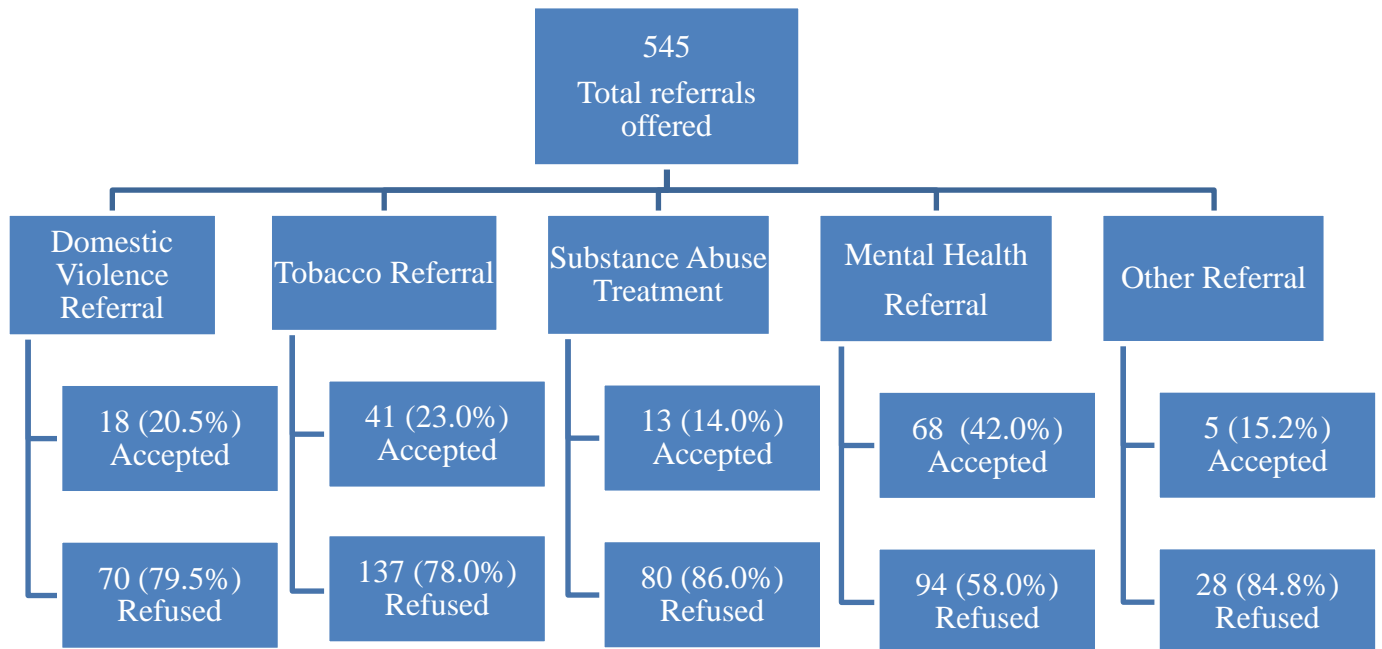


Chart 1. Referral frequencies for all women

**Please note that remaining offered referrals did not indicate whether accepted or refused.*

Race (Figure 4A and 4B)

- ❖ Of the women who identified their race, the majority were African American (34.1%), Hispanic (31.2%), and Caucasian (27.6%). Multiracial (3.8%), Asian (2.3%), and Other (0.9%) women made up the minority.
- ❖ Chi-Square analysis showed a significant relationship between race and the pregnant woman's screen outcome, $\chi^2(3, N = 1,369) = 173.20, p < .001$. Caucasian women (56.5%) were most likely to have a positive screen compared to 'other' women (31.6%) and African American women

(28.0%). Hispanic women (14.0%) were least likely to have a positive screen. Cramer's v value indicates a very strong relationship with an effect size (v) of .36.

**Please note, Multiracial, Asian and 'Other' women were recoded into "Other" for this analysis due to low sample size.*

Community Area (Figure 5A and 5B)

- ❖ Of the screens that marked their community area, the majority of the screens were from Vermillion (20.1%) followed by Rockford (18.9%), and Elgin (15.1%). The remaining screens were divided among Englewood (10.8%), Macon (7.6%), Decatur (7.4%), Cook (6.7%), Moline (6.0%), Cicero (4.6%), Aurora (2.2%), and Lake (0.5%).
- ❖ Chi-Square analysis showed a significant relationship between community area and the pregnant woman's screen outcome, $\chi^2(8, N = 1,475) = 160.37, p < .001$. Women who were screened in Moline (56.7%), Decatur (47.3%), Vermillion (48.3%), and Macon (43.0%), were the most likely to be positive. Women screened in Englewood/Cook (22.8%), Cicero (8.8%), and Elgin (8.6%), were the least likely to have a positive screen. Cramer's v value indicates a strong relationship with an effect size (v) of .33.

**Please note, Cook was recoded into Englewood and Lake into Rockford for this analysis due to low sample size.*

Age Groups (Figure 6A and 6B)

- ❖ Of the women who identified their age; the majority were 18 to 35 years old (80.6%), with women under 18 (13.6%) and women over 35 (5.8%) making up the minority.
- ❖ Chi-Square analysis showed a significant relationship between age group and the pregnant woman's screen outcome, $\chi^2(2, N = 1,324) = 10.39, p = .006$. Women who were 18 to 35 were most likely to have a positive screen (32.9%), with women 35 and older (26.9%) and women under 18 (21.2%) least likely to have a positive screen. Cramer's v value indicates a very weak relationship with an effect size (v) of .09.

Appendix

Terms

Cramer's ν : A value used to examine the strength and direction of the relationship. It ranges in value from 0 to 1: the size of Cramer's ν (how far away from zero) tells us the strength of the relationship.

The significance level for Cramer's ν is the same as that of Chi-Square p value.

Level of Association	Verbal Description
.00	No Relationship
.01 to .15	Very Weak Relationship
.16 to .20	Weak Relationship
.21 to .25	Moderate Relationship
.26 to .30	Moderately Strong Relationship
.31 to .35	Strong Relationship
.36 to .40	Very Strong Relationship
.41 to .50	Worrisomely Strong Relationship
.51 to .99	Redundant Relationship

Chi-Square: A statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis. A Chi-Square statistic is used to investigate whether distributions of categorical variables differ from one another.

Positive 4 P's Plus screen: A screen is positive if a woman indicated smoking cigarettes, drinking beer/wine/liquor, or taking prescription pain medications or depression/anxiety medications in the month before she knew she was pregnant.

Positive assessment: An assessment is positive if a woman indicated using any substances in the assessment section.

Figure 3A. Last month, about how many days a week did you smoke cigarettes?

Total n: 871

How Often	n	% of Total
Did not smoke cigarettes	631	72.4%
Every day	154	17.7%
3-6 Days a week	24	2.8%
1-2 Days a week	29	3.3%
< 1 day a week	24	2.8%
Missing	9	1.0%

Figure 3B. Last month, about how many days a week did you usually drink beer, wine, a daiquiri or liquor?

Total n: 871

How Often	n	% of Total
Did not drink beer/wine/liquor	769	88.3%
Every day	9	1.0%
3-6 Days a week	3	0.3%
1-2 Days a week	22	2.5%
< 1 day a week	58	6.7%
Missing	10	1.1%

Figure 3C. Last month, about how many days a week did you use marijuana?

Total n: 871

How Often	n	% of Total
Did not smoke marijuana	788	90.5%
Every day	24	2.8%
3-6 Days a week	9	1.0%
1-2 Days a week	14	1.6%
< 1 day a week	21	2.4%
Missing	15	1.7%

Figure 3D. Last month, about how many days a week did you use drugs?

Total n: 871

How Often	n	% of Total
Did not do drugs	839	96.3%
Every day	14	1.6%
3-6 Days a week	1	0.1%
1-2 Days a week	1	0.1%
< 1 day a week	2	0.2%
Missing	14	1.6%

Figure 4A. Race and Positive Screens

Four P's Plus		Caucasian	Hispanic	African American	Asian	Other	Multiracial	Total
	+	216	60	129	4	2	25	436
	%	56.5%	14.0%	28.0%	12.5%	15.4%	47.2%	31.8%
	-	166	368	332	28	11	28	933
	%	43.5%	86.0%	72.0%	87.5%	84.6%	52.8%	68.2%
Total	382	428	461	32	13	53	1,369	

Figure 4B. Race and Positive Screens

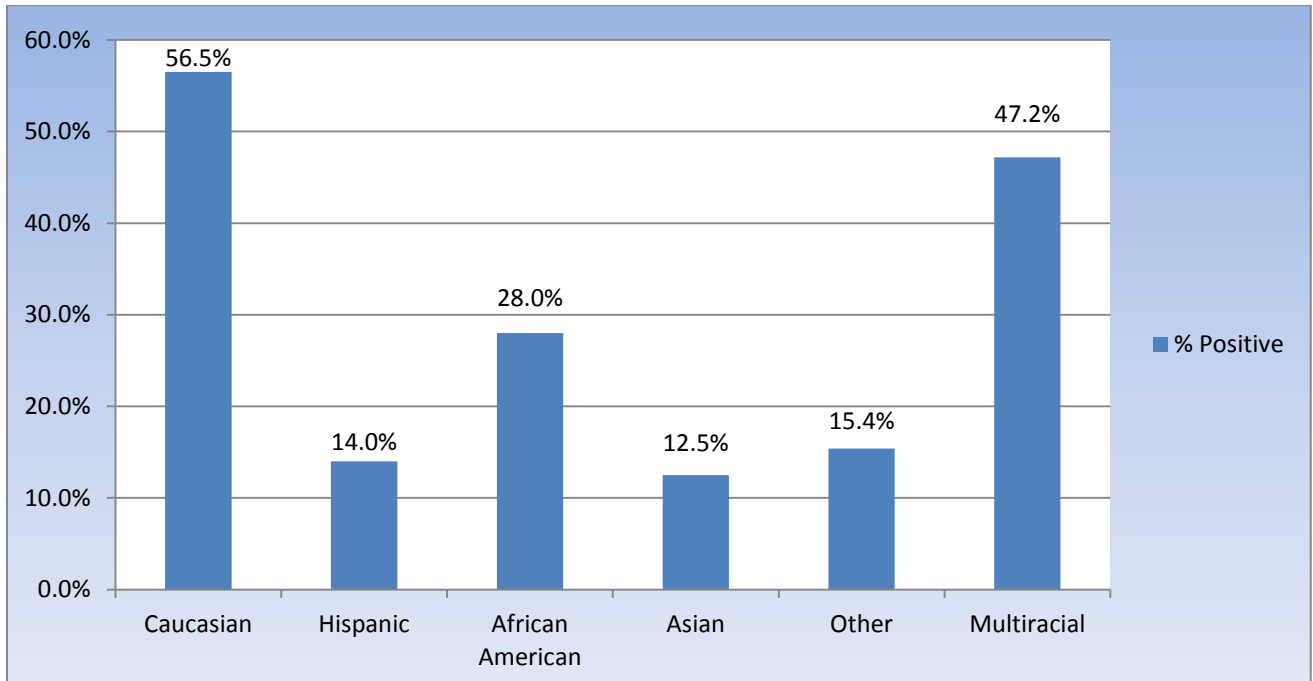


Figure 5A. Community Area and Positive Screens

FourPs Plus		Cicero	Elgin	Englewood	Macon	Rockford	Vermillion
	+	6	19	48	49	95	144
	%	8.8%	8.6%	30.6%	43.0%	33.9%	48.3%
	-	62	201	109	65	185	154
	%	91.2%	91.4%	69.4%	57.0%	66.1%	51.7%
Total	68	220	157	114	280	298	

FourPs Plus		Decatur	Aurora	Moline	Cook	Lake	Total
	+	52	8	51	10	1	483
	%	47.3%	24.2%	56.7%	10.3%	12.5%	32.7%
	-	58	25	39	87	7	992
	%	52.7%	75.8%	43.3%	89.7%	87.5%	67.3%
Total	110	33	90	97	8	1,475	

Figure 5B. Community Area and Positive Screens

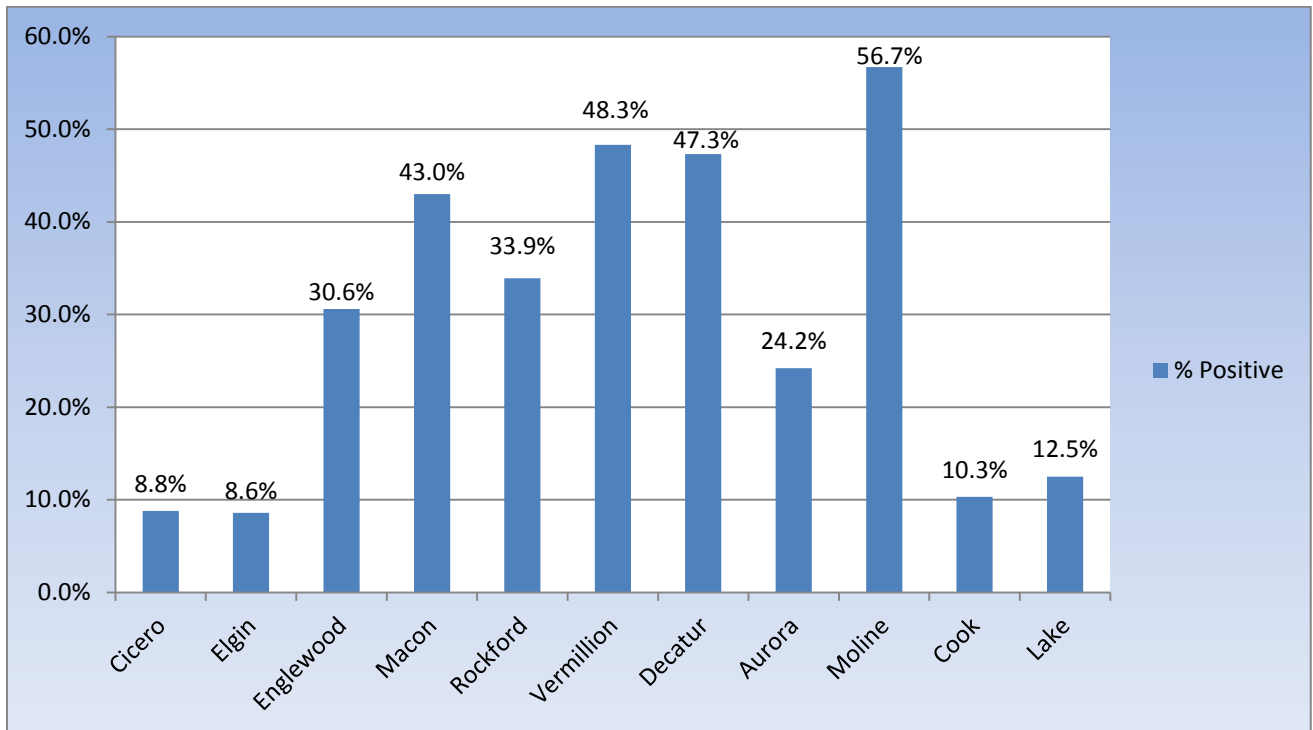


Figure 6A. Age Group and Positive Screens

Four P's Plus		Under 18	18 to 35	35 and older	Total
	+	38	351	21	410
	%	21.2%	32.9%	26.9%	31.0%
	-	141	716	57	914
	%	78.8%	67.1%	73.1%	69.0%
Total	179	1,067	78	1,324	

Figure 6B. Age Group and Positive Screens

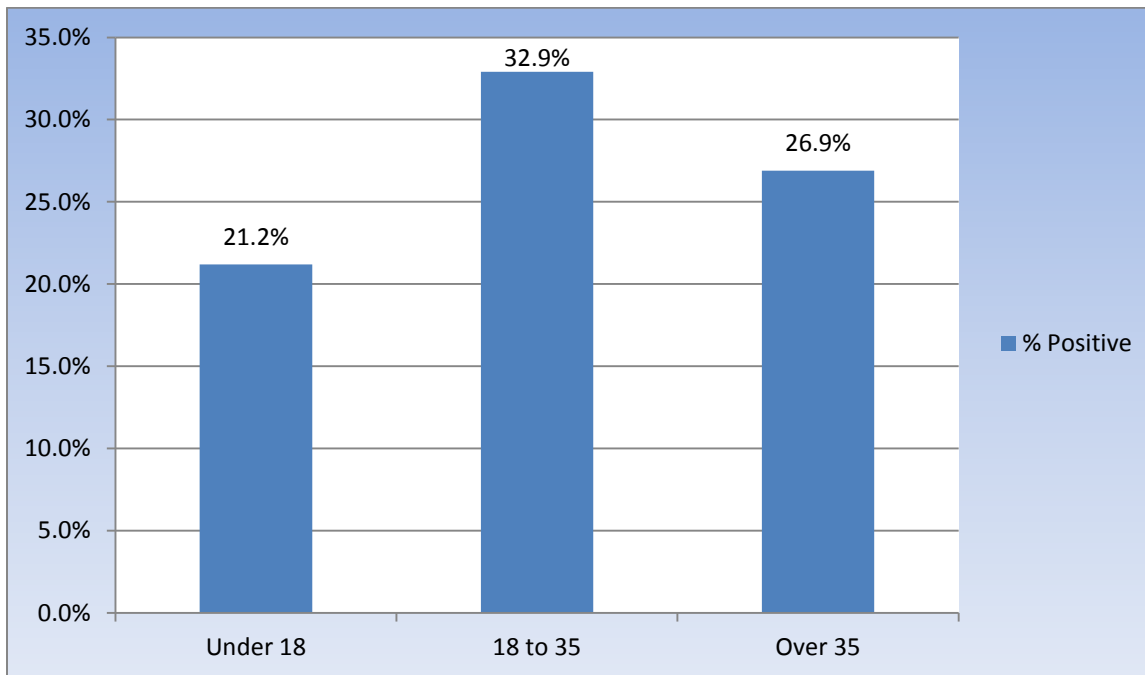
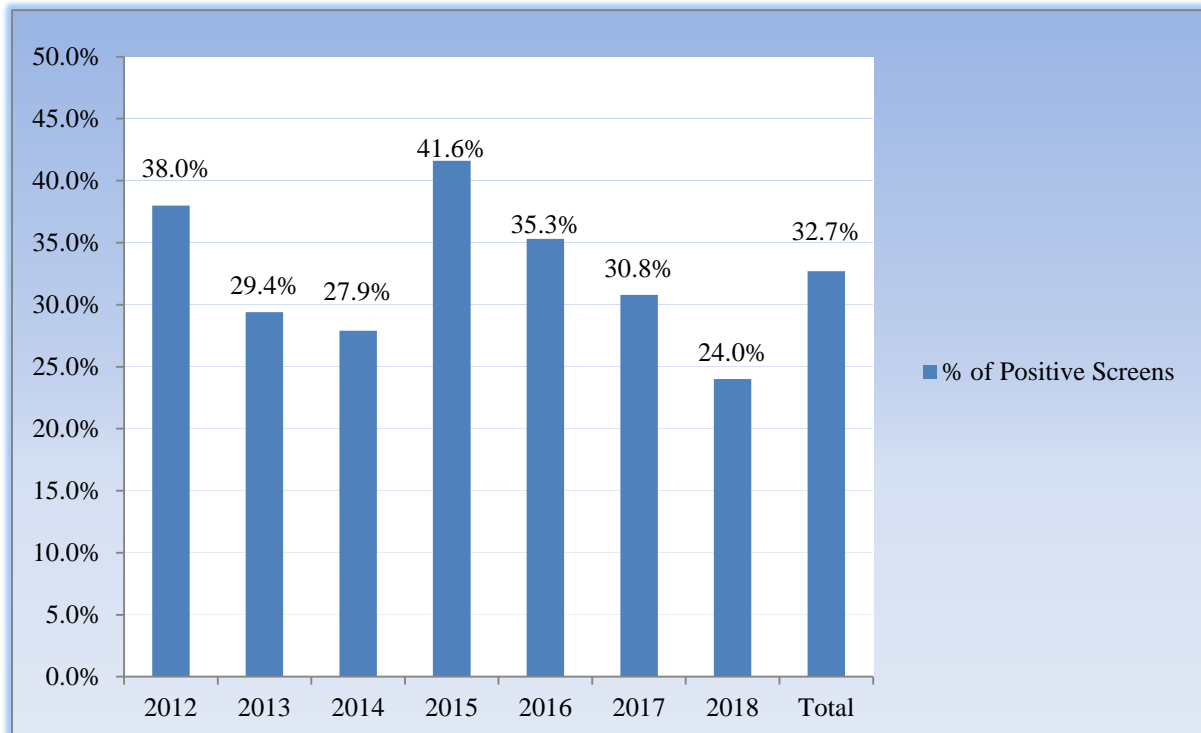


Figure 7. Positive Screens by Year



MISSING VALUES

Below is a table displaying the frequency of missing values for various questions on the 4P's Plus form. Frequencies were not run on the assessment or referral portion because those portions were not necessary for each screen.

Question	Valid	Missing
Date	1,565	126
DOB	1,359	332
Race	1,487	204
Age	1,427	264
Parents	1,680	11
Partner has substance problem?	1,665	26
Felt out of control?	1,677	14
Does partner threaten you?	1,662	29
Felt down, depressed, or hopeless?	1,683	8
Felt little interest/pleasure in things?	1,674	17
Month before, how much smoke?	1,672	19
Month before, how much drink?	1,665	26
Community Area	1,616	75
Clinic/Provider Name	1,604	87