

4P's Plus: MIECHV

June 21, 2012 – November 17, 2016

Since implementing the 4P's Plus program, MIECHV has screened a total of 1,156 women (sixty two screens had no valid date and thus were not included in the analyses leaving a total of 1,094). Of the women who identified their ethnicity, the majority were African American (36.6%), Caucasian (38.7%) and Hispanic (27.5%). Among screens with communities reported most screens were from Vermillion (25.1%), Rockford (14.8%), and Elgin (11.8%). The average age for a woman with an initial screen was 23.19 ($SD = 6.07$) and women's ages ranged from 13 to 47 years old. There were a total of 369 positive screens, 33.7% of the total number of screens. There have been a total of 158 brief interventions offered and 96 (60.8%) were accepted. There have been a total of 382 referrals made and 101 (26.4%) 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 1,094.

- ❖ Did either of your parents have any problem with drugs or alcohol?
 - Yes: 279 (25.5%)
 - No: 808 (73.9%)
 - Chi-Square analysis showed a significant relationship between parent's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 1,077) = 90.31, p < .001$. Women whose parent had a drug or alcohol problem were more likely to have a positive screen (57.4%) compared to those whose parent did not have a drug or alcohol problem (26.0%). Cramer's v value indicates a moderately strong relationship with an effect size (v) of .29.

- ❖ Does your partner have any problem with drugs or alcohol?
 - Yes: 103 (9.4%)
 - No: 980 (89.6%)
 - Chi-Square analysis showed a significant relationship between partner's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 1,075) = 17.54, p < .001$. Women whose partner had a drug or alcohol problem were more likely to have a positive screen (52.4%) compared to those whose partner did not have a drug or alcohol problem (31.9%). Cramer's v value indicates a very weak relationship with an effect size (v) of .13.

Domestic Violence Questions

- ❖ Have you ever felt out of control or helpless?
 - Yes: 129 (11.8%)
 - No: 958 (87.6%)
- ❖ Does your partner threaten to hurt or punish you?
 - Yes: 38 (3.5%)
 - No: 1,039 (95.0%)
- ❖ Chi-Square analysis showed a significant relationship between domestic violence and the pregnant woman’s screen outcome, $\chi^2(1, N = 1, 068) = 65.52, p < .001$. Women who answered positively to the domestic violence questions were more likely to have a positive screen (63.7%) compared to women who did not experience domestic violence (29.5%). Cramer’s v value indicates a moderate relationship with an effect size (v) of .25.

Depression Questions

- ❖ In the past two weeks, have you ever felt down, depressed, or hopeless?
 - Yes: 202 (18.5%)
 - No: 888 (81.2%)
- ❖ In the past two weeks, have you lost interest in doing the things that used to be fun to you?
 - Yes: 145 (13.3%)
 - No: 938 (85.7%)
- ❖ Chi-Square analysis showed a significant relationship between depression and the pregnant woman’s screen outcome, $\chi^2(1, N = 1,077) = 31.34, p < .001$. Women who experienced depressive symptoms were more likely to have a positive screen (48.4%) compared to women who did not (29.4%). Cramer’s v value indicates a weak relationship with an effect size (v) of .17.

Screen Results (Figure 1)

- ❖ In the month before you knew you were pregnant, how many cigarettes did you smoke?
 - Any: 276 (25.2%)
 - None: 811 (74.1%)
- ❖ In the month before you knew you were pregnant, how much wine/beer/liquor did you drink?
 - Any: 224 (20.5%)
 - None: 854 (78.1%)
- ❖ *Positive Screens: 369 (33.7%)*

Total n: 1,094

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	115	10.5%
Alcohol Only	77	7.1%
Marijuana Only	6	0.5%
Drug Only	0	0.0%
Cig & Alc	73	6.7%
Cig & Mj	27	2.5%
Cig & Drug	1	0.1%
Alc & Mj	15	1.4%
Alc & Drug	0	0.0%
Mj & Drug	1	0.1%
Alc, Mj, & Drug	1	0.1%
Cig, Mj, & Drug	2	0.2%
Cig, Alc, & Drug	2	0.2%
Cig, Alc, & Mj	53	4.8%
Cig, Alc, Mj, & Drug	3	0.3%
None	718	65.6%

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

Assessment Results

All percentages in this section are out of 575; 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: 108 (18.8%)
 - None: 461 (80.2%)
- ❖ 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: 10 (1.7%)
 - None: 557(96.9%)

Since Pregnancy (Figure 2)

- ❖ And last month, about how many days a week did you usually smoke cigarettes?
 - Any: 178 (31.0%)
 - None: 393 (68.3%)
 - Refer to Figure 3A
- ❖ And last month, about how many days a week did you usually drink beer, wine, a daiquiri or liquor?
 - Any: 61 (10.6%)
 - None: 507 (88.2%)
 - Refer to Figure 3B
- ❖ And last month, about how many days a week did you usually use marijuana?
 - Any: 37 (6.4%)
 - None: 530 (92.2%)
 - 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: 6 (1.0%)
 - None: 562 (97.7%)
 - Refer to Figure 3D
- ❖ Positive Assessments: 246 (42.8%)

Total n: 575

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	124	21.6%
Alcohol Only	19	3.3%
Marijuana Only	8	1.4%
Drug Only	0	0.0%
Cig & Alc	28	4.9%
Cig & Mj	15	2.6%
Cig & Drug	1	0.2%
Alc & Mj	5	0.9%
Alc & Drug	0	0.0%
Mj & Drug	0	0.0%
Alc, Mj, & Drug	0	0.0%
Cig, Mj, & Drug	1	0.2%
Cig, Alc, & Drug	1	0.2%
Cig, Alc, & Mj	5	0.9%
Cig, Alc, Mj, & Drug	3	0.5%
None	365	63.5%

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

Brief Interventions

- ❖ There have been a total of 158 brief interventions offered and 96 (60.8%) were accepted.
- ❖ Among women with a positive screen, 112 brief interventions were offered and 69 (61.6%) were accepted.

Referrals

- ❖ A total of 382 referrals were offered and 101 of them were accepted (26.4%).
- ❖ Among women with a positive screen, 280 referrals were offered and 78 referrals were accepted (27.9%).

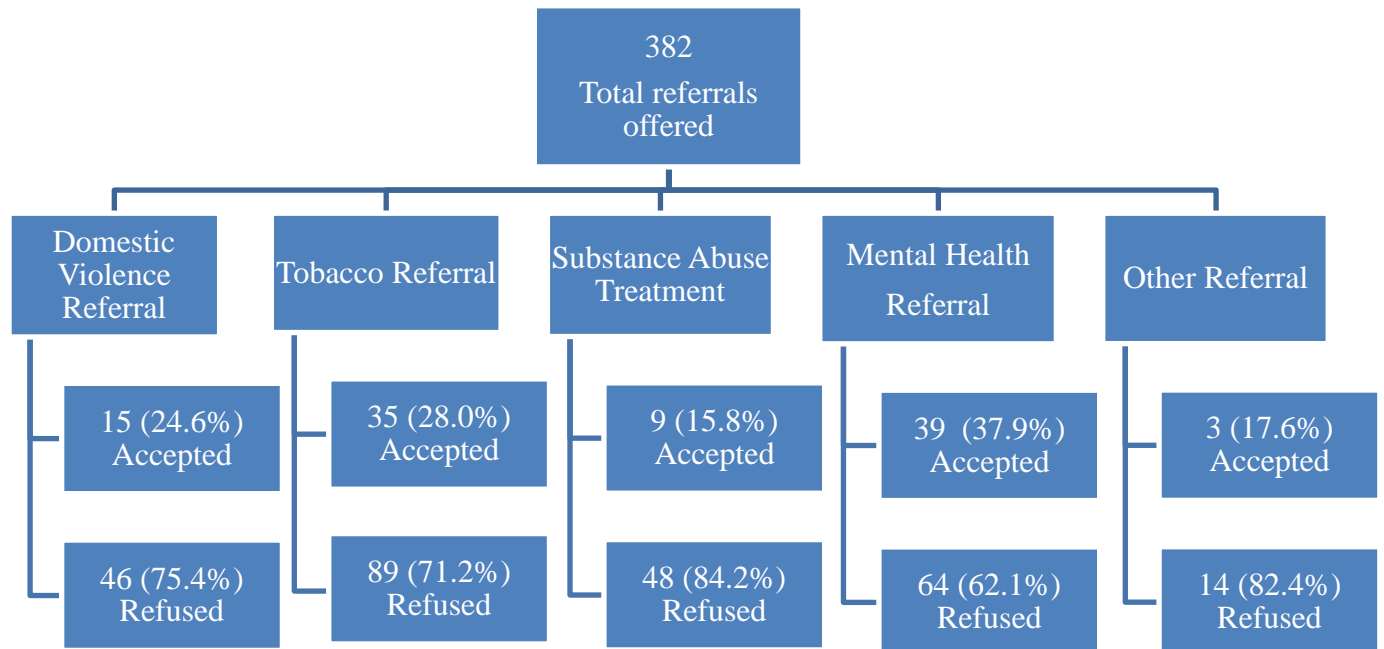


Chart 1. Referral frequencies for all women

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

Race (Figure 4A and 4B)

- ❖ Of the women who identified their ethnicity, the majority were African American (36.6%), Caucasian (28.7%), and Hispanic (27.5%). Multiracial (3.8%), Asian (2.6%), and Other (0.8%) women made up the minority.
- ❖ Chi-Square analysis showed a significant relationship between race and the pregnant woman's screen outcome, $\chi^2(3, N = 966) = 139.53, p < .001$. Caucasian women (59.9%) were most likely to have a positive screen compared to African American women (28.2%), other women (30.0%),

and Hispanic women (13.5%). Cramer's ν value indicates a very strong relationship with an effect size (ν) of .38.

**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 (25.1%) followed by Rockford (14.8%), and Elgin (11.8%). The remaining screens were divided among Englewood (11.0%), Decatur (8.9%), Macon (8.1%), Cook (8.1%), Cicero (6.1%), Moline (3.5%), Aurora (1.9%), and Lake (0.8%).
- ❖ Chi-Square analysis showed a significant relationship between community area and the pregnant woman's screen outcome, $\chi^2(8, N = 1,006) = 111.48, p < .001$. Women who were screened in Decatur (53.9%), Macon (52.4%), Moline (50.0%), and Vermillion (47.0%) were the most likely to be positive. Women screened in Elgin (10.2%) and Cicero (9.8%) and Englewood/Cook (21.1%) were the least likely to have a positive screen. Cramer's ν value indicates a strong relationship with an effect size (ν) 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 (80.2%), with women under 18 (13.5%) and women over 35 (6.3%) making up the minority.
- ❖ Chi-Square analysis showed a significant relationship between age group and the pregnant woman's screen outcome, $\chi^2(2, N = 992) = 7.81, p = .020$. Women who were 18 to 35 were most likely to have a positive screen (34.6%), with women 35 and older (27.0%) and women under 18 (23.1%) least likely to have a positive screen. Cramer's ν value indicates a very weak relationship with an effect size (ν) 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: 575

How Often	n	% of Total
Did not smoke cigarettes	393	68.3%
Every day	119	20.7%
3-6 Days a week	21	3.7%
1-2 Days a week	18	3.1%
< 1 day a week	20	3.5%
Missing	4	0.7%

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

Total n: 575

How Often	n	% of Total
Did not drink beer/wine/liquor	507	88.2%
Every day	4	0.7%
3-6 Days a week	2	0.3%
1-2 Days a week	18	3.1%
< 1 day a week	37	6.4%
Missing	7	1.2%

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

Total n: 575

How Often	n	% of Total
Did not smoke marijuana	530	92.2%
Every day	10	1.7%
3-6 Days a week	7	1.2%
1-2 Days a week	6	1.0%
< 1 day a week	14	2.4%
Missing	8	1.4%

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

Total n: 575

How Often	n	% of Total
Did not do drugs	562	98.9%
Every day	3	0.5%
3-6 Days a week	1	0.2%
1-2 Days a week	0	0.0%
< 1 day a week	2	0.3%
Missing	7	1.2%

Figure 4A. Race and Positive Screens

Four P's Plus		Caucasian	Hispanic	African American	Asian	Other	Multiracial	Total
	+	167	36	99	2	2	17	323
	%	59.9%	13.5%	28.2%	8.0%	25.0%	45.9%	33.4%
	-	112	230	252	23	6	20	643
	%	40.1%	86.5%	71.8%	92.0%	75.0%	54.1%	66.6%
Total	279	266	351	25	8	37	966	

Figure 4B. Race and Positive Screens

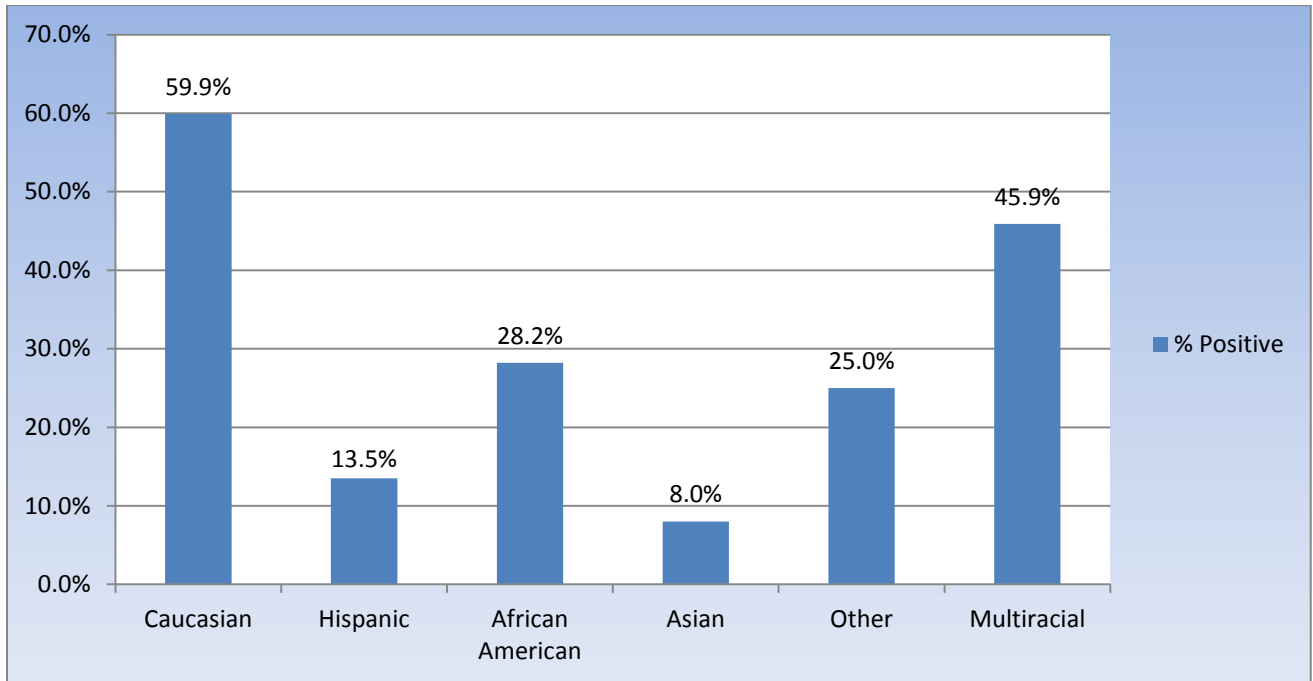


Figure 5A. Community Area and Positive Screens

FourPs Plus		Cicero	Elgin	Englewood	Macon	Rockford	Vermillion
	+	6	12	32	43	50	119
	%	9.8%	10.2%	29.4%	52.4%	33.3%	47.0%
	-	55	106	77	39	100	134
	%	90.2%	89.8%	70.6%	47.6%	66.7%	53.0%
Total	61	118	109	82	150	253	

FourPs Plus		Decatur	Aurora	Moline	Cook	Lake	Total
	+	48	6	18	8	1	343
	%	53.9%	31.6%	50.0%	9.9%	12.5%	34.1%
	-	41	13	18	73	7	663
	%	46.1%	68.4%	50.0%	90.1%	87.5%	65.9%
Total	89	19	36	81	8	1,006	

Figure 5B. Community Area and Positive Screens

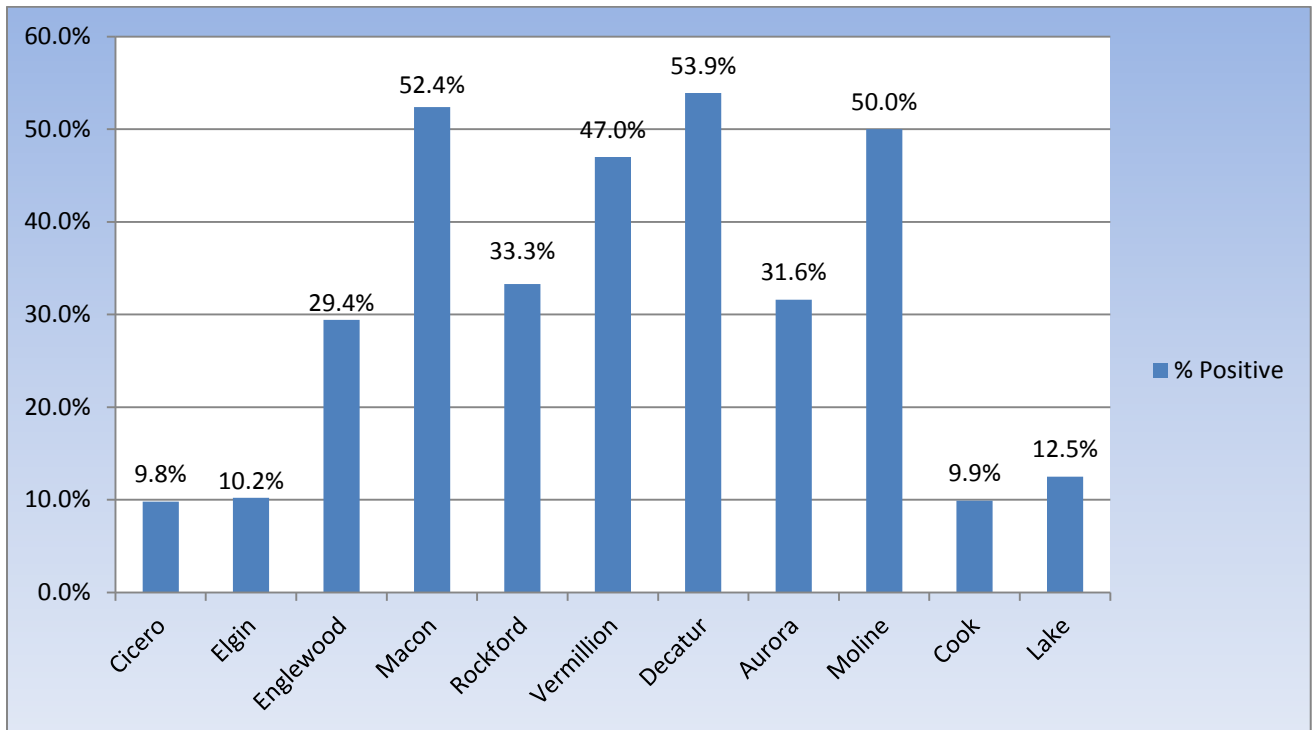
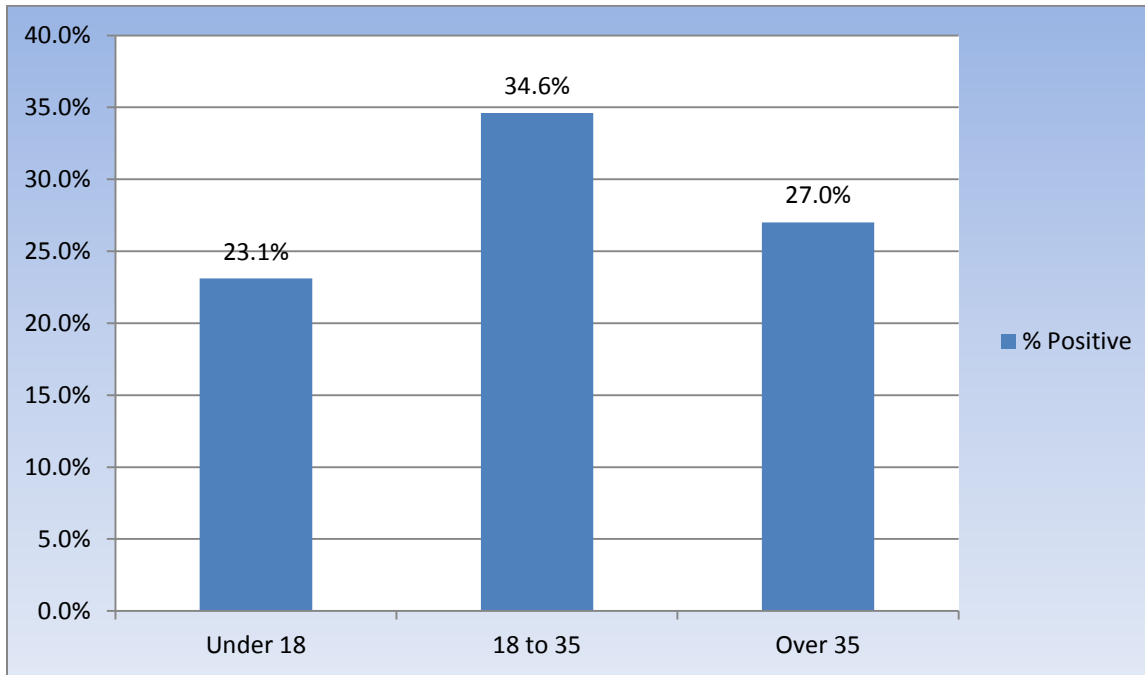


Figure 6A. Age Group and Positive Screens

Four P's Plus		Under 18	18 to 35	35 and older	Total
	+	31	275	17	323
	%	23.1%	34.6%	27.0%	32.6%
	-	103	520	46	669
	%	76.9%	65.4%	73.0%	67.4%
Total	134	795	63	992	

Figure 6B. Age Group and Positive Screens



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	1,094	62
DOB	942	214
Race	1,019	137
Age	1,045	111
Parents	1,149	7
Partner has substance problem?	1,143	13
Felt out of control?	1,149	7
Does partner threaten you?	1,138	18
Felt down, depressed, or hopeless?	1,152	4
Felt little interest/pleasure in things?	1,145	11
Month before, how much smoke?	1,148	8
Month before, how much drink?	1,139	17
Community Area	1,075	81
Clinic/Provider Name	1,072	84