

4P's Plus: MIECHV

June 25, 2012 May 9, 2014

Since implementing the 4P's Plus program, MIECHV has screened a total of 459 women (twelve screens had no valid date and thus were not included in the analyses leaving a total of 447). Of the women who identified their ethnicity, the majority were African American (35.2%) and Hispanic (32.4%). The communities with the most screens were Vermillion (141 (31.5%)), Elgin (78 (17.4%)), and Rockford (69 (15.4%)). The average age for a woman with an initial screen was 22.95 ($SD = 5.99$) and women's ages ranged from 13 to 45 years old. There were a total of 150 positive screens, 33.6% of the total number of screens. There have been a total of 67 brief interventions offered and 39 (58.2%) were accepted. There have been a total of 144 referrals made and 34 (23.6%) 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 447.

- ❖ Did either of your parents have any problem with drugs or alcohol?
 - Yes: 115 (25.7%)
 - No: 329 (73.6%)
 - Chi-Square analysis showed a significant relationship between parent's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 440) = 25.57, p < .001$. Women whose parent had a drug or alcohol problem were more likely to have a positive screen (53.0%) compared to those whose parent did not have a drug or alcohol problem (27.1%). Cramer's v value indicates a moderate relationship with an effect size (v) of .24.

- ❖ Does your partner have any problem with drugs or alcohol?
 - Yes: 43 (9.6%)
 - No: 401 (89.7%)
 - Chi-Square analysis showed a significant relationship between partner's drug/alcohol problem and the pregnant woman's screen outcome, $\chi^2(1, N = 440) = 4.93, p = .04$. Women whose partner had a drug or alcohol problem were more likely to have a positive screen (48.8%) compared to those whose partner did not have a drug or alcohol problem (32.0%). Cramer's v value indicates a very weak relationship with an effect size (v) of .11.

Domestic Violence Questions

- ❖ Have you ever felt out of control or helpless?
 - Yes: 47 (10.5%)
 - No: 398 (89.0%)

- ❖ Does your partner threaten to hurt or punish you?
 - Yes: 15 (3.4%)
 - No: 426 (95.3%)

- ❖ Chi-Square analysis showed a significant relationship between domestic violence and the pregnant woman’s screen outcome, $\chi^2(1, N = 438) = 17.48, p < .001$. Women who answered positively to the domestic violence questions were more likely to have a positive screen (59.3%) compared to women who did not experience domestic violence (30.5%). Cramer’s v value indicates a weak relationship with an effect size (v) of .20.

Depression Questions

- ❖ In the past two weeks, have you ever felt down, depressed, or hopeless?
 - Yes: 75 (16.8%)
 - No: 369 (82.6%)

- ❖ In the past two weeks, have you lost interest in doing the things that used to be fun to you?
 - Yes: 61 (13.6%)
 - No: 380 (85.0%)

- ❖ Chi-Square analysis showed a significant relationship between depression and the pregnant woman’s screen outcome, $\chi^2(1, N = 439) = 12.58, p = .001$. Women who experienced depressive symptoms were more likely to have a positive screen (48.1%) compared to women who did not (29.3%). 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: 105 (23.5%)
 - None: 339 (75.8%)

- ❖ In the month before you knew you were pregnant, how much wine/beer/liquor did you drink?
 - Any: 93 (20.8%)
 - None: 347 (77.6%)

- ❖ *Positive Screens: 150 (33.6%)*

Total N: 447

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	47	10.5%
Alcohol Only	41	9.2%
Marijuana Only	0	0.0%
Drug Only	0	0.0%
Cig & Alc	27	6.0%
Cig & Mj	9	2.0%
Cig & Drug	0	0.0%
Alc & Mj	4	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	2	0.4%
Cig, Alc, & Mj	19	4.2%
Cig, Alc, Mj, & Drug	0	0.0%
None	297	66.4%

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

Assessment Results

All percentages in this section are out of 226; 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: 33 (14.6%)
 - None: 190 (84.1%)
- ❖ 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: 3 (1.3%)
 - None: 219 (96.9%)

Since Pregnancy (Figure 2)

- ❖ And last month, about how many days a week did you usually smoke cigarettes?
 - Any: 73 (32.3%)
 - None: 152 (67.3%)
 - Refer to Figure 3A
- ❖ And last month, about how many days a week did you usually drink beer, wine, a daiquiri or liquor?
 - Any: 17 (7.5%)
 - None: 204 (90.3%)
 - Refer to Figure 3B
- ❖ And last month, about how many days a week did you usually use marijuana?
 - Any: 7 (3.1%)
 - None: 216 (95.6%)
 - 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: 2 (0.9%)
 - None: 221 (97.8%)
 - Refer to Figure 3D
- ❖ Positive Assessments: 93 (41.2%)

Total N: 226

<u>Substances</u>	<u>n</u>	<u>% of Total</u>
Cigarettes Only	59	26.1%
Alcohol Only	5	2.2%
Marijuana Only	3	1.3%
Drug Only	0	0.0%
Cig & Alc	9	4.0%
Cig & Mj	2	0.9%
Cig & Drug	0	0.0%
Alc & Mj	0	0.0%
Alc & Drug	0	0.0%
Mj & Drug	0	0.0%
Alc, Mj, & Drug	0	0.0%
Cig, Mj, & Drug	0	0.0%
Cig, Alc, & Drug	1	0.4%
Cig, Alc, & Mj	1	0.4%
Cig, Alc, Mj, & Drug	1	0.4%
None	145	64.2%

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

Brief Interventions

- ❖ There have been a total of 67 brief interventions offered and 39 (58.2%) were accepted.
- ❖ Among women with a positive screen, 43 brief interventions were offered and 32 (74.4%) were accepted.

Referrals

- ❖ A total of 144 referrals were offered and 34 of them were accepted (23.6%).
- ❖ Among women with a positive screen, 93 referrals were offered and 25 referrals were accepted (26.9%).

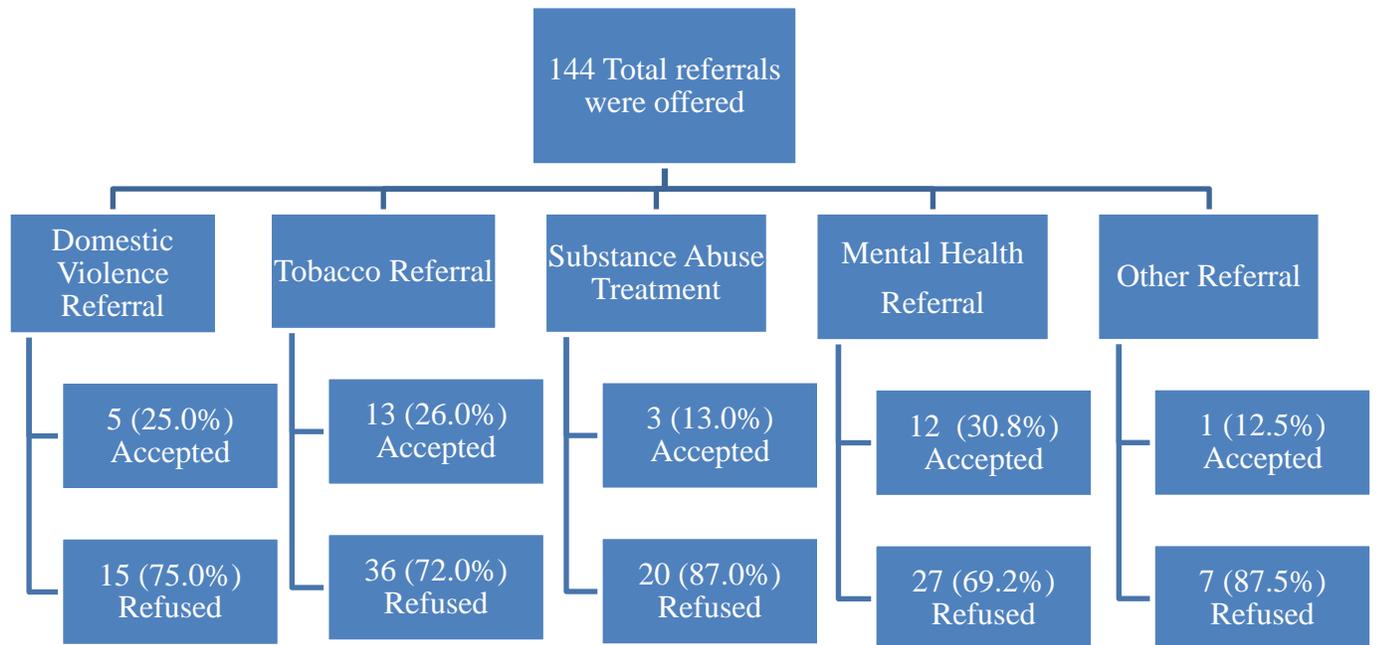


Chart 1. Referral frequencies for all women

Race (Figure 4A and 4B)

- ❖ Of the women who identified their ethnicity, the majority were African American (35.2%) and Hispanic (32.4%). Caucasian (26.7%), Multiracial (3.7%), Asian (1.2%), and Other (0.7%) women made up the minority.
- ❖ Chi-Square analysis showed a significant relationship between race and the pregnant woman's screen outcome, $\chi^2(3, N = 397) = 54.76, p < .001$. Caucasian women (59.4%) were most likely to have a positive screen compared to African American women (34.8%), other women (26.1%),

and Hispanic women (13.8%), Cramer's ν value indicates a very strong relationship with an effect size (ν) of .37.

**Please note, Multiracial and Asian 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 screen were from Vermillion (31.5%) followed by Elgin (17.4%), and Rockford (15.4%). The remaining screens were divided among Macon (9.6%), Englewood (8.3%), Cicero (7.8%) and Decatur (3.8%).

- ❖ Chi-Square analysis showed a significant relationship between community area and the pregnant woman's screen outcome, $\chi^2(6, N = 416) = 46.49, p < .001$. Women who were screened in Macon were the most likely to be positive (62.8%). Women screened in Elgin (10.3%) were the least likely to have a positive screen. Cramer's ν value indicates a strong relationship with an effect size (ν) of .33.

Age Groups (Figure 6A and 6B)

- ❖ Of the women who identified their age; the majority were 18 to 35 years old (79.7%), with women under 18 (14.1%) and women over 35 (6.2%) making up the minority.

- ❖ Chi-Square analysis did not show a significant relationship between age group and the pregnant woman's screen outcome, $\chi^2(2, N = 400) = 5.29, p = .071$. There is no difference between women of various age groups in their rate of positive screens. Cramer's ν value indicates a very weak relationship with an effect size (ν) of .12.

Appendix

Terms

Cramer’s ν : A value used to examine the strength and direction of the relationship. It ranges in value from -1 to +1: the positive or negative sign tells the direction of the relationship, and 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: 226

How Often	n	% of Total
Did not smoke cigarettes	152	67.3%
Every day	52	23.0%
3-6 Days a week	9	4.0%
1-2 Days a week	5	2.2%
< 1 day a week	7	3.1%
Missing	1	0.4%

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

Total N: 226

How Often	n	% of Total
Did not drink beer/wine/liquor	204	90.3%
Every day	3	1.3%
3-6 Days a week	0	0.0%
1-2 Days a week	4	1.8%
< 1 day a week	10	4.4%
Missing	5	2.2%

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

Total N: 226

How Often	n	% of Total
Did not smoke marijuana	216	95.6%
Every day	1	0.4%
3-6 Days a week	1	0.4%
1-2 Days a week	2	0.9%
< 1 day a week	3	1.3%
Missing	3	1.3%

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

Total N: 226

How Often	n	% of Total
Did not do drugs	221	97.8%
Every day	0	0.0%
3-6 Days a week	1	0.4%
1-2 Days a week	0	0.0%
< 1 day a week	1	0.4%
Missing	3	1.3%

Figure 4A. Race and Positive Screens

Four P's Plus		Caucasian	Hispanic	African American	Asian	Other	Multiracial	Total
	+		63	18	48	2	1	3
	%	59.4%	13.8%	34.8%	40.0%	33.3%	20.0%	34.0%
-		43	112	90	3	2	12	262
	%	40.6%	86.2%	65.2%	60.0%	66.7%	80.0%	66.0%
Total		106	130	138	5	3	15	397

Figure 4B. Race and Positive Screens

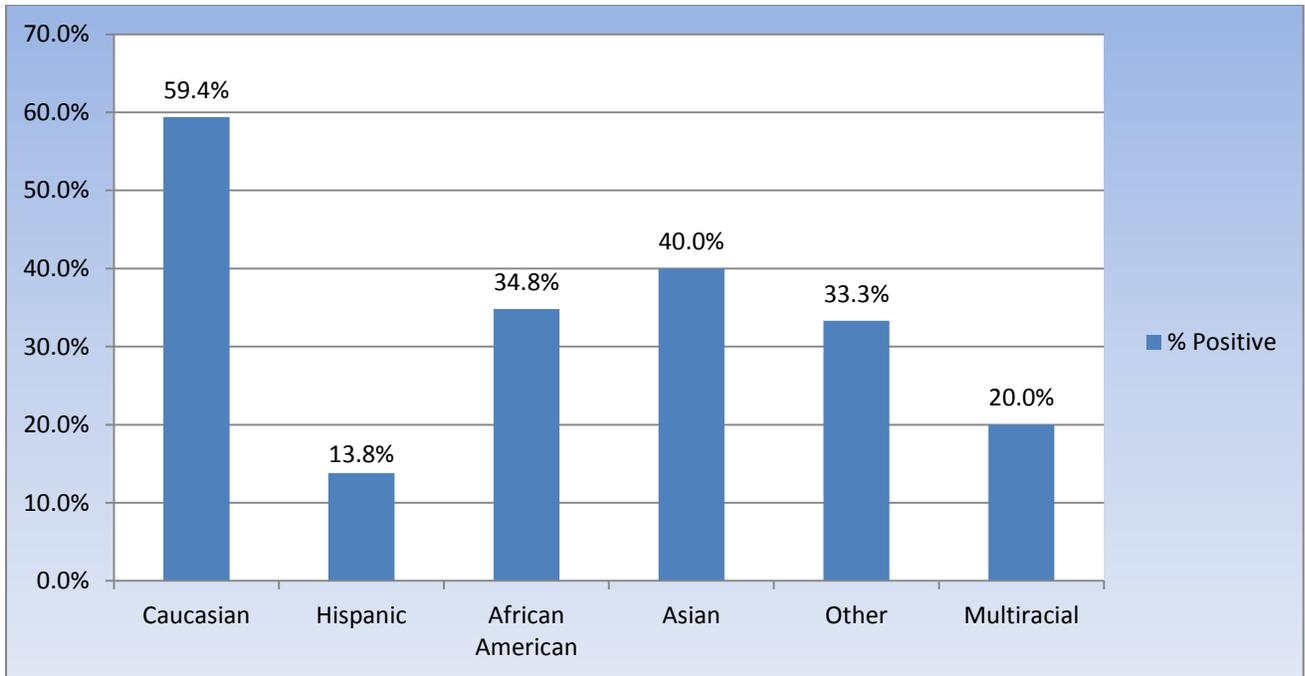


Figure 5A. Community Area and Positive Screens

FourPs Plus		Cicero	Elgin	Englewood	Macon	Rockford	Vermillion	Decatur	Total
	+	4	8	12	27	27	56	7	141
	%	11.8%	10.3%	34.3%	62.8%	39.1%	40.0%	41.2%	33.9%
	-	30	70	23	16	42	84	10	275
	%	88.2%	89.7%	65.7%	37.2%	60.9%	60.0%	58.8%	66.1%
Total	34	78	35	43	69	140	17	416	

Figure 5B. Community Area and Positive Screens

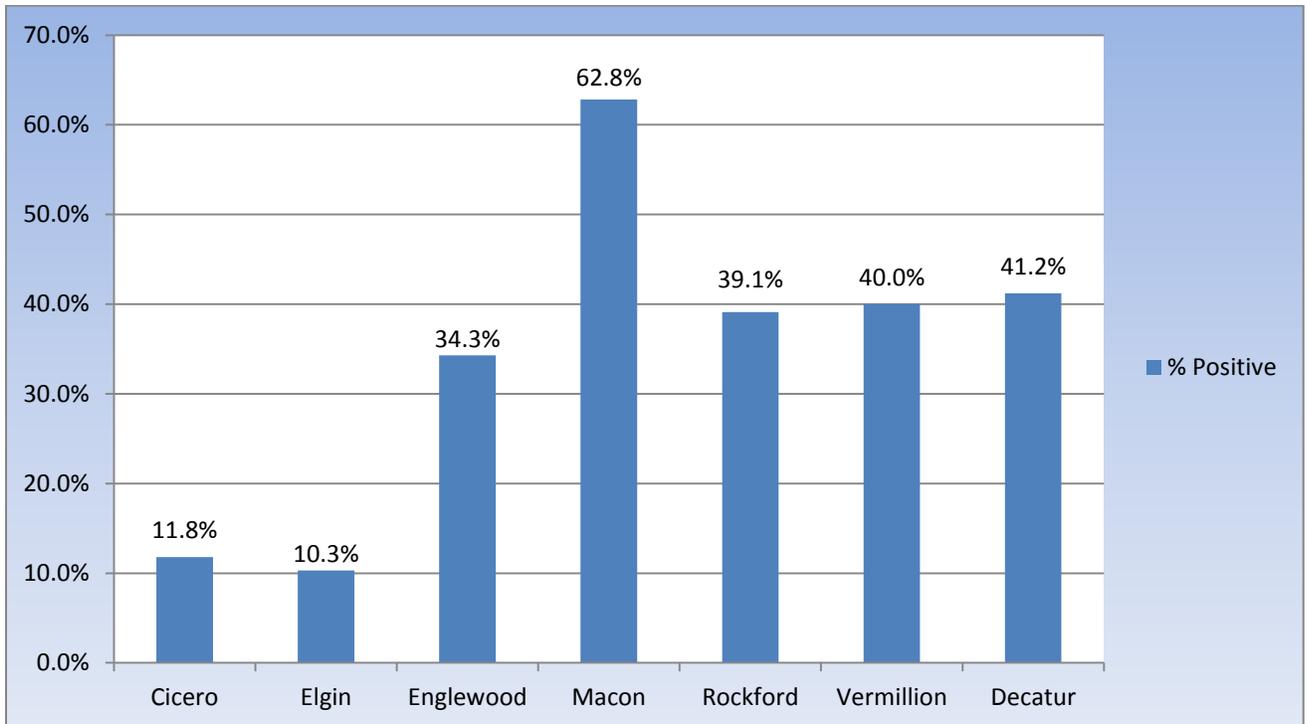
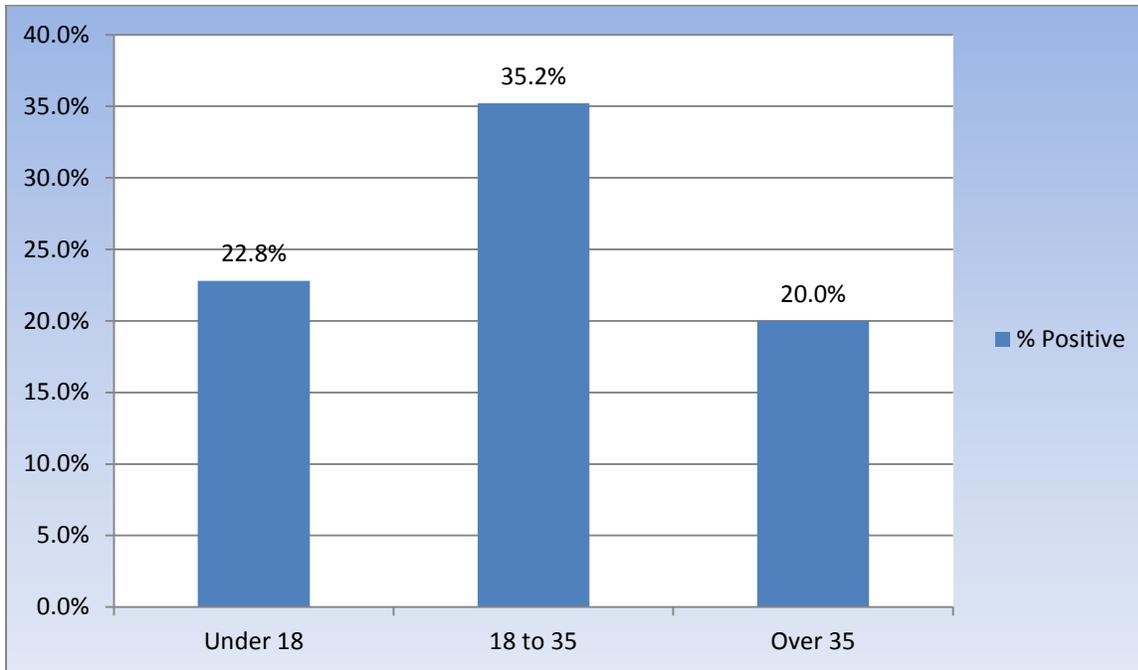


Figure 6A. Age Group and Positive Screens

Four P's Plus		Under 18	18 to 35	35 and older	Total
	+	13	112	5	130
	%	22.8%	35.2%	20.0%	32.5%
	-	44	206	20	270
	%	77.2%	64.8%	80.0%	67.5%
Total	57	318	25	400	

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	447	12
DOB	388	71
Race	405	54
Age	408	51
Parents	456	3
Partner has substance problem?	456	3
Felt out of control?	457	2
Does partner threaten you?	453	6
Felt down, depressed, or hopeless?	456	3
Felt little interest/pleasure in things?	453	6
Month before, how much smoke?	456	3
Month before, how much drink?	452	7
Community Area	431	28
Clinic/Provider Name	435	24