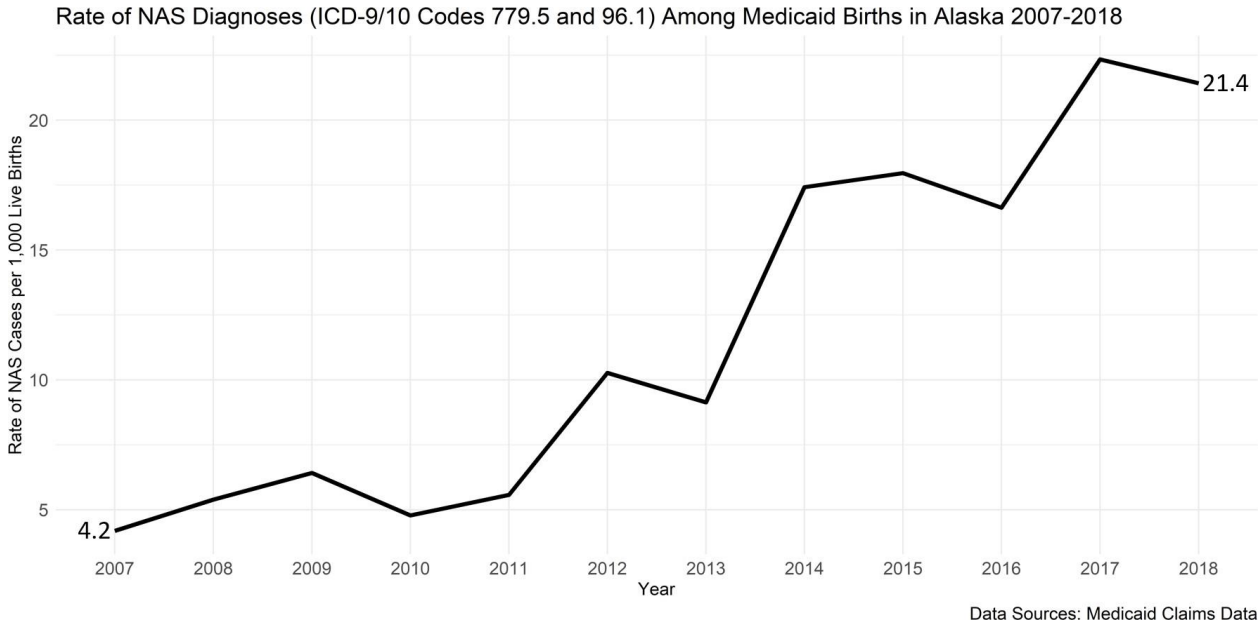
Alaska Substance Exposed Newborns Initiative
Report Covering Data Generated from Form Version 1
July 1, 2017 – July 11, 2019

In 2016, the Alaska Department of Health and Social Services (DHSS) Divisions of Behavioral (DBH) and Public Health (DPH), Office of Substance Misuse and Addiction Prevention (OSMAP), and hospitals in Anchorage, Fairbanks, Juneau, and Palmer launched a project to screen pregnant women being admitted for delivery for harmful substances, domestic violence, depression, and desire for subsequent pregnancy. The goal of the project was to support clinicians and communities to provide evidence-based care for pregnant women, babies and their families. In 2019, the project was established as the Alaska Substance Exposed Newborns Initiative (SENI). This report describes some of SENI's early activities and the information generated from the screenings conducted using form version 1 during July 1, 2017-July 11, 2019. Data generated from screenings using form version 2 during May 1, 2018-January 30, 2020, will be shared in a subsequent report.

Some Consequences of Use of Harmful Substances for Pregnant Women and Their Babies
Use of harmful and hazardous substances such as alcohol, tobacco, marijuana, opioids, and methamphetamines during pregnancy increases the risk of harm for the unborn infant. Some harms, such as those from alcohol, are known to cause lifelong disability. Prenatal exposure to harmful substances introduces risks for both mother and child. Neonatal Abstinence Syndrome (NAS), a postnatal substance withdrawal syndrome, is one such problem. Infants with NAS may require costly prolonged hospital stays as they go through withdrawal from substance exposure. Infants with NAS have a higher risk of congenital anomalies and life-long neurodevelopmental delays.[1]

The opioid crisis is impacting increasing numbers of Alaskan infants each year, with 112 Medicaid-covered newborns identified in 2018 alone. During 2007-2018, the rate of NAS among Medicaid-covered live births increased 5 fold, from 4.2 to 21.4 cases per 1,000 live births, as shown in the chart below.



Among the 788 Medicaid-covered infants born during 2007- 2018 and diagnosed with NAS:

- Over 55% of their mothers received inadequate or no prenatal care.
- Over 70% were born to mothers who had previously delivered a live birth.
- 20% of those reported to the Alaska Office of Children's Services were temporarily or permanently placed in protective custody within one month of birth.

Burdens from the substantial portion of infants affected by prenatal substance exposure and placed into protective custody fall on public and private safety net systems, families and the infants themselves. While protective interventions, including custody, are needed, systems that offer comprehensive family supports that promote sobriety and health are also necessary. Alaska law does not criminalize pregnant women who use harmful substances, and state and local service agencies are working to strengthen such family support networks. Under Alaska Statute 47.17.020, when health care workers, "…in performance of their appointed duties, have reasonable cause to suspect that a child has suffered harm as a result of child abuse or neglect…" health care workers "…shall immediately report the harm to the nearest office of the department." Alaska Statute 47.17.290 (9) describes child maltreatment as "…an act or omission that results in circumstances in which there is reasonable cause to suspect that a child may be a child in need of aid, as described in AS 47.10.011."

Following report of a child suspected to be at risk of harm to the Alaska Department of Health and Social Services Office of Children's Services (OCS), OCS staff assess the need for intervention. OCS is partnering with families, care providers, court officials, the Infant Learning Program, DPH and SENI to fulfill requirements of the Child Abuse Prevention and Treatment Act (CAPTA) by educating mandated reporters about making appropriate referrals to OCS and planning for essential services, such as plans for safe care for infants identified as having prenatal exposure to harmful substances.

4P's Plus Screen for Behavioral Health Risk©

4P's Plus Screen for Behavioral Health Risk© tool, also known as 4P's Plus©, is a screening tool that has been validated to screen pregnant women for all substances with potential to harm a pregnancy.[2] 4P's Plus© was developed and validated by Dr. Ira Chasnoff and the *National Training Institute Upstream.* 4P's Plus© consists of screening questions organized around family history questions (i.e., **P**arents, **P**artner, and **P**ast) which help to normalize the process of asking the sensitive questions about substance use during pregnancy. The fourth "P" section (i.e., **P**regnancy) then asks about substance use prior to the woman's knowledge of her pregnancy. In similar manner to standard patient history routinely asking about the patient's parents' health, the 4P's Plus© screening questions include asking about parents' use of substances. This is followed by questions about use of harmful substances prior to the woman's knowledge of her pregnancy. Report of use of any quantity of tobacco, alcohol or marijuana during the month prior to the woman's knowledge of her pregnancy constitutes a positive screen indicating heightened risk for substance use during pregnancy. The form collects these data as report of use of "any" amount of substances. The open-ended questions, while asking about specific amount of substance used, frame the question, but the recorded response is either "any" or "none". Recording of one or more "any" responses is positive for risk and triggers asking the Follow Up questions in order to identify specific substance(s) used during the last month of pregnancy, or to identify mothers who stopped use of substances.

In 2007, the Journal of Perinatology reported that the "4P's Plus reliably and effectively screens pregnant women for risk of substance use, including those women typically missed by other perinatal screening methodologies." (N=228) "Sensitivity and specificity were very good, at 87 and 76%, respectively. Positive predictive validity was low (36%), but negative predictive validity was high (97%)."[2] 4P's Plus© includes screening of pregnant women for depression and intimate partner violence. Appropriate assessment and referral care may then be offered. When substance use during pregnancy is reported, a brief and supportive counseling intervention and referral to care is completed. This evidence-based process is called "SBIRT", or screening, brief intervention and referral to treatment. The U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration[3] (SAMHSA) defines SBIRT as follows:

- Screening — a healthcare professional assesses a patient for risky substance use behaviors using standardized screening tools. Screening can occur in any healthcare setting.
- Brief Intervention — a healthcare professional engages a patient showing risky substance use behaviors in a short conversation, providing feedback and advice.
- Referral to Treatment — a healthcare professional provides a referral to brief therapy or additional treatment to patients who screen in need of additional services.

The federal Protecting Our Infants Act (Public Law 114-91) recommends that states use SBIRT to enable early identification of use of hazardous and harmful substances prior to conception, and to provide women at risk with voluntary and easy access to the full range of contraceptive options so that they are supported to prevent pregnancy when such substances are used.

The American Academy of Pediatrics[4] policy statement: A Public Health Response to Opioid Use in Pregnancy affirms the American College of Obstetricians and Gynecologists and American Society of Addiction Medicine[5] Joint Committee Opinion #711, recommending that universal screening rely on validated screening tools and that urine drug testing be done only with the patient's consent to confirm suspected or reported drug use. SAMHSA[6], and the American Academy of Pediatrics[4] (AAP) recommend that routine prenatal care include universal screening of pregnant women for substances using a validated tool at the time of the first prenatal visit. Positive screening needs to be followed with a brief intervention and referral to treatment. Universal screening of all pregnant women reduces the risk of failing to identify those at risk, and may help reduce stigma around discussing substance use in health care settings.

ACOG, SAMHSA, and AAP also recommend screening pregnant women for personal and family violence, mental health and depression, and desire for immediate subsequent pregnancy. Women in need of services related to any of these issues must be supported so that both their needs, and those of their babies, are well met.

Estimates of rates of unintended pregnancy among women who use opioids have been reported to be higher than 85%.[7] ACOG recommends that women of childbearing age be screened for their desired timing for pregnancy so that healthy pregnancies can be planned. Helping pregnant women to avoid having successive pregnancies exposed to harmful substances is an important part of providing quality care. In support of this, SENI screening includes the questions "Would you like to become pregnant again in the coming year?" Knowing what each woman wants helps health care workers to better support each woman to consider her plans for subsequent pregnancy and to promote optimal maternal and infant health.

What is the Alaska Substance Exposed Newborns Initiative?
SENI is a program focused on improving the quality of clinical care and optimizing community-based resources needed to optimize the health and well-being of pregnant women, babies and their families. SENI is working to integrate 4P's Plus©, a validated screening tool, into both inpatient and outpatient practice settings. Many prenatal care providers may ask their patients about substance use but may not be using validated tools. When this is the case, care providers are far less likely to accurately identify women in need of care to address substance misuse. The quality of clinical care for pregnant women and infants will be substantially improved with use of validated tools, such as 4P's Plus©. Surveillance data obtained from screening can help inform both the state and local communities about their specific care needs so that plans for services will be appropriately matched.

Progress to Date
The four hospitals participating in SENI began using the 4P's Plus© screening tool in July 2017. Although the 4P's Plus© screening tool was developed for use during routine outpatient prenatal care, SENI has focused screening efforts primarily around the time the woman presents for delivery. This approach aims to provide universal screening that includes screening of women who do not access early or routine prenatal care. As over half of Alaskan mothers of Medicaid-covered infants diagnosed with NAS during 2007–2018 received inadequate or no prenatal care, this is critical if universal screening is to be achieved.

Important Note Regarding Data Used for this Report
Following testing of its original Follow Up questions used on form version 1, SENI modified the Follow Up questions and adopted use of form version 2. Changes to the questions in the Follow Up section of the form were made in order to better capture data about the specific types of substances used. This important change will provide future data that can better inform our understanding of polysubstance use and will be reported in a subsequent report. This report describes information collected while using form version 1. *A total of 1,015 pregnant women were screened with form version 1 and this report describes only the information reported by those 1,015 women.*

Information From 4P's Plus© Screening Questions
Among the 1,015 women screened, 992 reported age and 970 reported prior pregnancies at the time of screening. The average age of these women was 29.2 years and the average number of previous births was 1.31. **Figure 2** shows the 4P's Plus© screening questions.

Figure 2: 4P's Plus© screening questions as shown on form version 1, used by SENI

Parents	Did either of your parents have any problems with drugs or alcohol?	No	Yes
Partner	Does your partner have any problem with drugs or alcohol?		
	Have you ever felt out of control or helpless?		
	Does your partner threaten to hurt of punish you?		
Past	Have you ever drunk beer/wine/liquor?		
	Have you ever felt down, depressed or hopeless?		
	Have you lost interest in things that used to be fun to you?		
Pregnancy	In the month before you knew you were pregnant, how many cigarettes did you smoke or chewing tobacco (iqmik) did you use?		Any
	In the month before you knew you were pregnant, how much wine/beer/liquor did you drink?		Any
	In the month before you knew you were pregnant, how much marijuana did you use?		Any

Would you like to become pregnant again in the next year?	No	Yes	Don't know	Ok, either way	If "Any" reported complete Follow Up questions

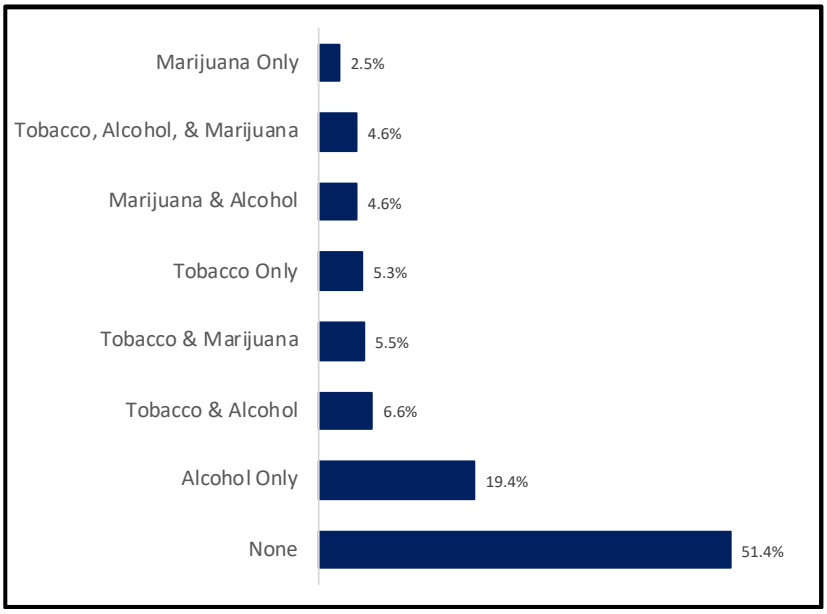
Table 1 shows the percent of women screened who answered yes to each of the screening questions.

Table 1: 4P's Plus© screening questions results, form version 1, July 1, 2017-July 11, 2019 births, SENI (N=1,015)

		% Yes
Parents	Did either of your parents have any problem with drugs or alcohol?	**19.8**
Partner	Does your partner have any problem with drugs or alcohol?	**4.8**
	Have you ever felt out of control or helpless?	**8.1**
	Does your partner threaten to hurt or punish you?	**1.2**
Past	Have you ever had any beer/wine/liquor?	**73.7**
	Have you ever felt down, depressed, or hopeless?	**26.9**
	Have you lost interest in things that used to be fun to you?	**10.4**
Report of use of any amount		**% Any**
Pregnancy	In the month before you knew you were pregnant, how many cigarettes did you smoke or chewing tobacco (iqmik) did you use?	**22.1**
	In the month before you knew you were pregnant, how much beer/wine/liquor did you drink?	**34.5**
	In the month before you knew you were pregnant, how much marijuana did you use?	**17.0**
	Positive 4P's Plus© Screen (report of use of any amount of tobacco, alcohol or marijuana one month before pregnancy)	**48.6**

Among the 1,015 women screened, 493 (48.6%) had a positive screen. Almost one-fifth (19.4%) of women reported only alcohol use in the month before they knew they were pregnant, 5.3% reported only tobacco use, and 2.5% reported only marijuana use (**Figure 3**). The remainder of women with a positive screen for risk reported using some combination of these three types of substances.

Figure 3. Polysubstance Use in the Month Before Knowledge of Pregnancy, Reported on 4P's Plus© Screening Questions, July 1, 2017–July 11, 2019 births, SENI (N=1,015)

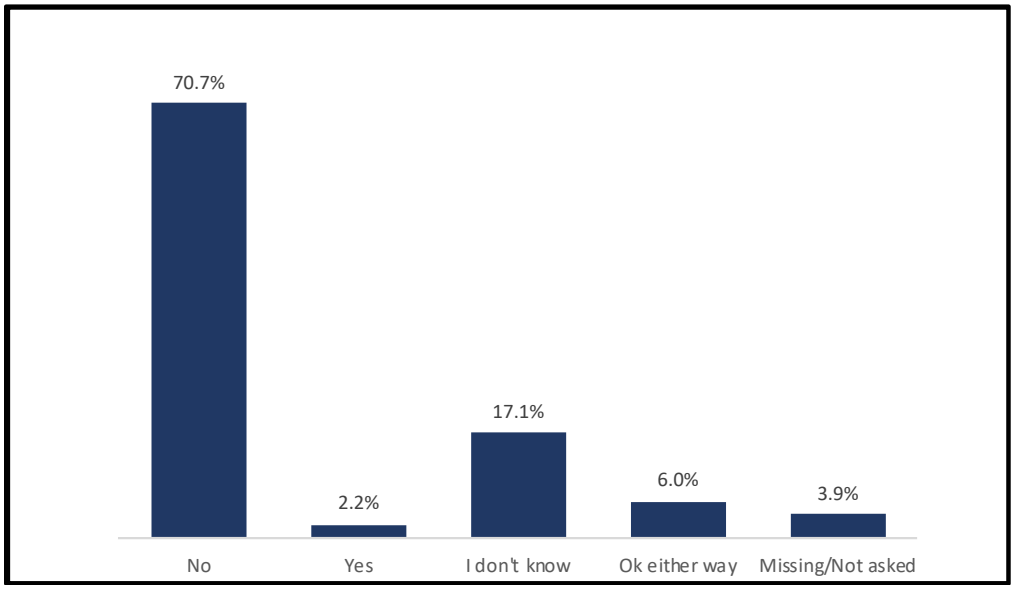


Supporting Mother's Desires for Future Healthy Pregnancies

As stated on page two of this report, over 70% of Alaskan mothers delivering a baby diagnosed with NAS had previously had at least one live birth. Use of harmful substances is often a chronic health problem, and for women of childbearing age, presents risk of exposing an unrecognized pregnancy. Supporting women of childbearing age to have healthy pregnancies can begin with caring conversations about their desires for childbearing. In support of this need, SENI includes the screening question: "Would you like to become pregnant again in the next year?" Mothers' responses to the question guide health care providers to support each mother's unique needs.

Screening pregnant women for substance use at the time of the first prenatal visit is ideal; however, many pregnant women who use substances do not access regular prenatal care. For this reason, intervention and care at birthing facilities is critical.

Figure 4. Responses to: "Would you like to be pregnant again in the next year?" Reported on 4P's Plus© Screening Questions, July 1, 2017-July 11, 2019 births, SENI (N=1,015)



Follow Up Assessment for Women with Positive 4P's Plus© Screen

A Follow Up assessment is conducted when a woman has a positive 4P's Plus© screen. Because the questions are asked at the time of delivery for SENI, report of use of substances describes use during the month prior to delivery. Data showing frequency of use of each type of substance were not analyzed and are not available.

Figure 5 shows the Follow Up Assessment Questions section of form version 1.

Follow Up Assessment Questions
Last month, about how many days a week did you usually smoke cigarettes or chew tobacco (iqmik)? Did not smoke ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
Last month, about how many days a week did you usually drink beer, wine or liquor? Did not drink ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
Last month, about how many days a week did you usually use marijuana? Did not use ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
In the month before you knew you were pregnant, about how many days a week did you usually use any prescription medicine such as oxycodone (Percocet), hydrocodone (Vicodin), codeine, methadone, Subutex, Suboxone, Lortab, Norco, buprenorphine, Fentanyl, morphine, antidepressants, or A.D.D. medicines, such as Ritalin? Did not use any ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
Last month, about how many days a week did you usually use any prescription medicine such as oxycodone (Percocet), hydrocodone (Vicodin), codeine, methadone, Subutex, Suboxone, Lortab, Norco, buprenorphine, Fentanyl, morphine, antidepressants, or A.D.D. medicines, such as Ritalin? Did not use any ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
In the month before you knew you were pregnant, about how many days a week did you usually use any drugs such as heroin, amphetamines, cocaine, crack or methamphetamines? ☐ Did not use any Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐
Last month, about how many days a week did you usually use any drugs such as heroin, amphetamines, cocaine, crack or methamphetamines? Did not use any ☐ Less than one day/week ☐ 1 or 2 days/week ☐ 3-6 days/week ☐ Everyday ☐

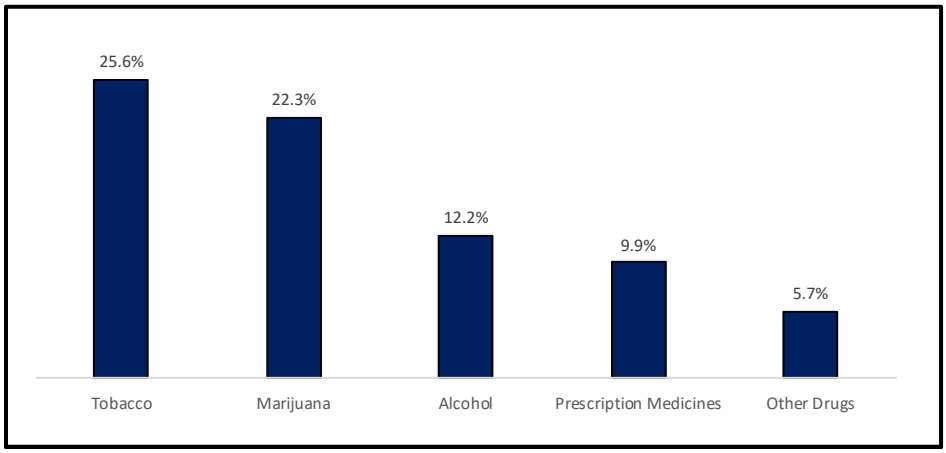
Follow Up questions are asked only of women having a positive 4P's Plus© screen. All percentages shown in Table 2 and Figure 6 use the total number of women who screened positive on the 4P's Plus© screening questions as the denominator (n=493). Over 20% of all women who delivered between July 2017 and April 2018 reported using marijuana or tobacco products during the last month of their pregnancy. Less than 10% reported prenatal use of prescription medicines or other drugs (**Table 2** and **Figure 6**).

An assessment is positive if a woman indicated using any substances during the month prior to the date of her assessment based on response to questions in the Follow Up section of the form. Because the questions are asked around the time of delivery, a positive assessment indicates use of substances in the month prior to delivery.

Table 2: Follow Up Assessment results, form version 1, July 1, 2017–July 11, 2019 births, SENI (N=493)

	Use of any amount before knowledge of pregnancy %	**Use of any amount during last month of pregnancy %**
Tobacco, alcohol, and marijuana		
Smoke cigarettes or chew tobacco (iqmik)	**See Table 1**	**25.6**
Drink beer/wine/liquor		**12.2**
Use marijuana		**22.3**
Use of other harmful substances		
Any prescription medicines (oxycodone, hydrocodone, codeine, methadone, Subutex, Suboxone, Lortab, Norco, Buprenorphine, Fentanyl, morphine, antidepressants, A.D.D medicines)	**9.5**	**9.9**
Any other drugs (heroin, amphetamines, cocaine, crack, methamphetamines)	**9.5**	**5.7**
Positive assessment for any harmful substances during the last month of pregnancy (i.e. tobacco, alcohol, marijuana, prescription medicines, other drugs)		**46.5**

Figure 6. Percent of Women Reporting Use of Harmful Substances during Last Month of Pregnancy, July 1, 2017-July 11, 2019 SENI (N=493)



Brief Intervention

Report of use of any substance on the Follow Up questions constitutes a positive assessment. Positive assessment prompts the consistent response of a brief intervention from clinical care providers. Brief intervention is a non-judgmental approach to the complex and stigmatizing circumstances surrounding families experiencing harms from substance use. Brief intervention is designed to engage the woman in a non-judgmental conversation about the risks harmful substances pose to her and her baby. It is critical that care providers empathetically support each mother to have barrier-free access to needed care services. This helps assure the health and safety of both the mother and her baby. Special training to strengthen care provider skill in conducting brief intervention is usually necessary. Low levels for both care provider offering of the brief intervention and women's acceptance of the intervention when offered, may be a sign that training in brief intervention is needed. Among the 229 women with a *positive assessment*, 82 were offered the brief intervention (35.8%), of which 55 (67.1%) accepted.

Future Plans

Since the beginning of the project on July 1, 2017 through July 11, 2019, SENI hospital partners screened a total of 1,015 pregnant women using form version 1. This is 19% of all women who delivered at those birthing hospitals. The hospitals are conducting quality assessment and improvement to boost their screening rates and improve the percentage of women offered the brief intervention. Care providers participating in the pilot project report that screening is an important and helpful tool that is enabling them to improve the quality of care for this vulnerable population of women and infants.

SENI's goal is to achieve universal screening of all pregnant women in Alaska. Program data might be used to better understand and meet both the needs of women who use harmful substances before, during and following pregnancy, and their babies. In 2020, SENI aims to improve the program by:

- Increasing screening rates from 19% to over 40% among the four participating hospitals
- Increasing the proportion of pregnant women who are offered and accept brief intervention after reporting use of a harmful substance during pregnancy
- Conducting tailored SBIRT trainings for clinical staff from all four participating hospitals
- Conducting training in screening and support of plans for subsequent pregnancy
- Encouraging more birthing centers, hospitals, and prenatal care providers to join SENI
- Investigating opportunities to improve referral for mental health needs
- Investigating opportunities to improve referral for needs related to domestic violence
- Collaborating with OCS in support of substance-exposed newborns and their families
- Producing and distributing a second report describing data collected using SENI form version 2, which will also rely on 4P's Plus©

For questions, comments or request to participate in SENI contact:

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Endnotes

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